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TRANSACTIONS

OF THE

THIRTY-THIRD SESSION

OF THE

HOMŒOPATHIC MEDICAL SOCIETY

OF THE

STATE OF PENNSYLVANIA.

HELD AT SCRANTON, SEPTEMBER 21, 22 AND 23, 1897.

PHILADELPHIA:
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1898.

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Trustees,	J. F. Cooper, M.D.,	Allegheny.
	Edward Cranch, M.D.,	Erie.
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	J. N. Mitchell, M.D.,	Philadelphia.
	W. B. VanLennep, M.D.,	Philadelphia.

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To the Homœopathic Medical Society of the State of Pennsylvania:

Your Publication Committee herewith presents the Proceedings and Papers of the Thirty-third Session of the Society, held at Scranton, September 21, 22 and 23, 1897. It is desired by the Committee that each member shall scan the list of members and notify it of any corrections that should be made in it. Some will be found on page 435.

EDWARD M. GRAMM, M.D.,
J. F. COOPER, M.D.,
GEORGE B. MORELAND, M.D.,
Committee on Publication.

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TRANSACTIONS

OF THE

THIRTY-THIRD SESSION

OF THE

HOMŒOPATHIC MEDICAL SOCIETY

OF THE

STATE OF PENNSYLVANIA.

Held at the Board of Trade Assembly Rooms, Scranton, September 21, 22 and 23, 1897.

The meeting was called to order by the President, Z. T. MILLER, M.D., of Pittsburg, on the morning of September 21, 1897.

Rev. C. M. Giffen, D.D., of Scranton, offered the invocation.

Col. H. M. Boies, of Scranton, welcomed the members of the Society in the following

ADDRESS OF WELCOME:

Ladies and Gentlemen, Members of the Homœopathic Medical Society of the State of Pennsylvania:

I have been requested by the fraternity in Scranton to extend to you the welcome of our citizens to our town. I esteem it a great honor that I should have been requested to represent the city in which I live and in which all Scrantonians take a great pride. We are proud of the size of our city and the rapidity with which it attained its present size. The growth of

our city has been completed almost within my own memory; and, although my hair is somewhat faded, I am not so old as a great many men. We are not only proud of our size, but the quality of our growth, of our public institutions, our public buildings, our streets, our location, our water supply, and, above all things, of our progressiveness—a broad, liberal public spirit has controlled our growth and developed our city and made it what is is.

We are indebted for your presence here to the popularity of homœopathy in this city. I believe that this new school of medicine is a school which is approved above all others by the educated classes in the community. It is recognized as an advance over the old school of medicine and a step of progressiveness in our civilization. It is, therefore, natural that in a city like this homœopathy should be popular. An evidence of that popularity was recently given when we attempted to establish a homœopathic hospital here. It was estimated by the doctors that if the sum of eight thousand dollars would be subscribed, in order to provide for its maintenance for a couple of years, the project would be placed on a firm footing and warrant its inauguration. We held a meeting and the ladies interested themselves in the matter, with the result that in a couple of weeks about ten thousand dollars were secured, which is not usual in charitable projects. Among the subscribers to the support of the hospital a very large proportion of the better classes of the community were found, so that we felt that homœopathy was strong here; and I think that this fact possibly led to the invitation to meet here being given to the Society. We are glad to welcome you, and I may say that I represent the best elements of our town when I welcome you to it; and we are glad to have you know what kind of a town we have. We take pleasure in showing it to you and in welcoming you to our homes, and hope that the influence of your meetings and the impression which will be made upon this great community by the reports of your proceedings will redound to the credit and advancement of this great school of medicine here, and foster the establishment of the new hospital which we have organized.

I never can forbear, on proper occasions, to enter my protest

and to throw the weight of what little influence I may have in condemnation of the narrow and irrational bigotry of the old school of medicine in its attitude towards the new school. I, therefore, wish to say, at this time, that I do hope your meeting here may conduce to a better and more rational feeling between the two schools than we have been made to feel exists, at least among some members of it. The duty of the profession, to my mind, and the object of it, is to cure the sick, to relieve suffering and to save life; and any man possessing skill, science and education in these directions who will refuse to contribute that skill in a case of necessity because he differs from some other practitioner who has charge of the case does an inhuman thing, a brutal thing. I have no patience with any of my best friends of the old school who refuse to consult with a homœopath because he believes in the doctrine of *similia similibus curantur*. It is ridiculous, absurd and inhuman, as I have said; and the time must come when professional men, of whatever line of practice they may be, will consider that humanity must rule all their notions, and the desire of the patients and the saving of life must govern their practice rather than false loyalty to a theory or school. When that time comes, and my physician has failed to discover the nature of the disease or the remedy which is called for, I see no reason why I should not call in another to assist him, just as, when I have a difficult legal case, I do not confine myself to my regular paid attorney, but call in half a dozen more; and so I have frequently called half a dozen doctors into my house. Every person is different from all others, and the same medicines are not likely to operate in the same way in the same disease in every person, any more than that one man is likely to diagnose a disease in an individual with the same certainty as another. Therefore, the more minds that are brought to bear upon a disease the more likely the results are to be beneficial.

While I believe in the homœopathic theory of therapeutics, I do not believe that it is of universal application, and I think you will do well if you recognize that fact yourselves. I believe, however, that it is of more general application than the old theory; but, while I believe that your theory of small doses

is the correct one for the majority of cases, there are some in which you must come back to the old style; and in the practice of the old style of medicine its votaries must recognize the fact that the homœopathic plan is applicable to a vast number of cases, and they will be compelled to practice homœopathy whether they want to or not. When the time comes that both schools see that they are dependent upon each other, and in almost any case likely to practice according to one another's theories, and decline to confine themselves positively and without variation to any school of medicine, the highest and best results are likely to be obtained. I want to see such a charity exercised by both schools, and by all schools, so that the homœopath will give an allopathic dose if he thinks it necessary, and the allopath will give homœopathic doses in nine cases out of ten. If steam is necessary, if electricity is necessary, or if hydropathy is necessary, use it to save the patient; whether you apply homœopathy, allopathy, steamopathy, hydropathy, or whatever you apply, save your patients; that is what we want you to do.

The profession of medicine ranks next to the profession of theology. You look after the physical; the theologians look after the spiritual; lawyers look after property and other interests. Of the three professions, you stand in the middle, and half-way up, according to the general acceptance of mankind. Therefore, be charitable with one another, looking to the grand results of saving our lives.

We cordially welcome you to our town. We shall be glad to do all in our power to make your stay pleasant to yourselves as well as to us. We are glad to see you here.

The President, Z. T. Miller, M.D., of Pittsburg, responded to the Address of Welcome as follows:

I am perfectly certain that every visiting member of the Homœopathic Medical Society of the State of Pennsylvania will feel very grateful for the welcome that has been extended to us by Col. Boies on behalf of the physicians and citizens of Scranton.

There is one thing that this city of one hundred thousand

people ought to have. In the greatness which the Colonel has claimed they ought to rise to the emergency of building a railroad direct from the city of Scranton to the city of Philadelphia and the village of Pittsburg—Allegheny annexed. We started from home yesterday morning, leaving there at eight o'clock, and arrived here at nine in the evening. We had to make three changes. The first one was at Lewistown. When we got to Lewistown we met a dusky citizen who said that there was a junction hotel. I am telling you this for the purpose of comparison, as I have been enabled to appreciate this city of Scranton very much on account of this same comparison. This dusky gentleman told us that there was a junction hotel at Lewistown. We had money to pay for it; Dr. Cooper paid for it; Dr. Cooper pays for everything; he pays for dinners, Society TRANSACTIONS, and everything else that is necessary, and he kept up his reputation. When we got to Scranton last night, tired and hungry, we went to one of the most elegant hotels we have ever seen in a village of one hundred thousand inhabitants. If that is any kind of a criterion—if I may use that word—of what the rest of Scranton is, you have certainly every reason to be proud of this town; and I think that the visiting members, every one of them, will enjoy your hospitality and be benefited by the coming, and go home glad that they have seen you and know more about you than they did before. As for myself, I had an idea that this was a little place out in the woods.

On motion, the calling of the roll was dispensed with.

It was moved and carried that the program for the meeting prepared by the Corresponding Secretary be adopted.

PROGRAM.

ORDER OF BUSINESS.

Tuesday, September 21, 1897.

Morning Session, 9.30 *to* 1 *o'clock.*

1. Call to order.
2. Invocation.
3. Address of Welcome.

4. Response.
5. Roll Call. Correction of List of Members.
6. Report of Treasurer. Appointment of Auditing Committee.
7. Report of Corresponding Secretary.
8. Report of Trustees.
9. Report of Committees:
   a. Organization, Registration and Statistics. George B. Moreland, M.D., Chairman.
   b. Legislation. H. C. Chisholm, M.D., Chairman.
   c. Publication. Edward M. Gramm, M.D., Chairman.
   d. Hahnemann Monument. W. J. Martin, M.D., Chairman.
10. Report of Delegates to the American Institute of Homœopathy.
11. Report of Delegates to the Southern Institute of Homœopathy.
12. Report of Delegates to the New Jersey State Society.
13. Report of Delegates to the New York State Society.
14. Report of Delegates to the Ohio State Society.
15. Report of Delegates to the Maryland State Society.
16. Report of Delegates to the Delaware State Society.
17. Report of Delegates to the Interstate Committee of the American Institute of Homœopathy.
18. Report of Delegates from State Societies and Local Organizations.
19. Report of Necrologist. Thomas L. Bradford, M.D.
20. Report of Board of Censors. Ella D. Goff, M.D., Chairman.
21. Report of Auditing Committee.

Bureau of Pathology and Pathological Anatomy.

P. Sharples Hall, M.D., Chairman.

Associates.—Joseph C. Guernsey, M.D.; M. J. Holben, M.D.; W. K. Ingersoll, M.D.; Theodore M. Johnson, M.D.; Joseph E. Jones, M.D.; R. S. Marshall, M.D.; C. R. Norton, M.D.; Joseph R. Phillips, M.D.; W. E. Rotzell, M.D.

P. Sharples Hall, M.D., Philadelphia. Title Unannounced.
Joseph C. Guernsey, M.D., Philadelphia. Burns and Scalds.
W. K. Ingersoll, M.D., Philadelphia. Three Cases.

Bureau of Pædology.

William H Cooper, M.D., Chairman.

Associates.—Mary Brewer, M.D.; Sarah J. Coe, M.D.; Theodore P. Gittens, M.D.; E. H. Hill, M.D.; D. C. Kline, M.D.; F. W. Lange, M.D.; Anna M. Marshall, M.D.; J. Nicholas Mitchell, M.D.; Robert Murdock, M.D.; T. Elwood Parker, M.D.; C. W. Perkins, M.D.; Theodore Sureth, M.D.; M. S. Williamson, M.D.; C. D. Yocum, M.D.

William H. Cooper, M.D., Oakmont. Pathognomonic Symptomatology in Diseases of Children.

Sarah J. Coe, M.D., Wilkesbarre. Eczema in Infants.

Theodore P. Gittens, M.D., Philadelphia. Infantile Diarrhœa.

T. Elwood Parker, M.D., Woodbury, N. J. Some Thoughts on Milk as a Food for Infants.

C. W. Perkins, M.D., Chester. Diphtheria.

D. C. Kline, M.D., Reading. Convulsions in Children.

Afternoon Session, 3 to 6 o'clock.

Bureau of Surgery.

D. P. Maddux, M.D., Chairman.

Associates.—F. W. Brierly, M.D.; J. W. Coolidge, M.D.; E. R. Gregg, M.D.; J. W. Hassler, M.D.; H. L. Northrop, M.D.; R. C. Pitcairn, M.D.; S. M. Rinehart, M.D.; C. P. Seip, M.D.; W. G. Steele, M.D.; Walter Strong, M.D.; L. W. Thompson, M.D.; G. A. Van Lennep, M.D.; W. B. Van Lennep, M.D.; Carl V. Vischer, M.D.; L. H. Willard, M.D.

D. P. Maddux, M.D., Chester. The Treatment of Abscess of the Superficial Tissues.

L. T. Ashcraft, M.D., Philadelphia. The Cause and Prevention of Urethral Strictures.

F. W. Brierly, M.D., Philadelphia. The Ambulant Treatment of Fistula in Ano.

J. W. Coolidge, M.D., Scranton. Self-Poisoning.

E. R. Gregg, M.D., Pittsburg. A Case of Cancer of the Œsophagus with Gastrostomy.

J. W. Hassler, M.D., Philadelphia. A Plea for Anæsthesia.

Walter Strong, M.D., Philadelphia. Operative Treatment of Wandering Spleen.

L. W. Thompson, M.D., Philadelphia. Helps in Circumcision.

G. A. Van Lennep, M.D., Philadelphia. Sprains—Their Complications and Treatment.

W. B. Van Lennep, M.D., Philadelphia. Surgery of the Gall-Bladder and the Gall Ducts.

Carl V. Vischer, M.D., Philadelphia. The Pathology of Urethral Strictures.

Bureau of Sanitary Science.

J. H. McClelland, M.D., Chairman.

Associates.—A. W. Baily, M.D.; A. P. Bowie, M.D.; F. W. Burlingame, M.D.; Anna C. Clarke, M.D.; J. F. Cooper, M.D.; Isaac Crowther, M.D.; Pemberton Dudley, M.D.; I. B. Gilbert, M.D.; H. F. Heilner, M.D.; J. H. Helfrich, M.D.; C. W. Karsner, M.D.; E. H. Kase, M.D.; Duncan Macfarlan, M.D.; Hugh Pitcairn, M.D.

A. P. Bowie, M.D., Uniontown. Hahnemann as a Sanitarian.

A. W. Baily, M.D., Atlantic City, N. J. Is the Present High Rate of Infantile Mortality Necessary?

F. W. Burlingame, M.D., McKeesport. Sanitation of Our Public-School Buildings.

Anna C. Clarke, M.D., Scranton. Hygiene in Schools.

Isaac Crowther, M.D., Chester. Sanitary Ignorance in High Places.

I. B. Gilbert, M.D., Philadelphia. Hygiene of the Sick Room.

C. W. Karsner, M.D., Philadelphia. Hygiene of a Public School.

E. H. Kase, M.D., Philadelphia. Dispensary Abuse—Result of an Investigation of Over One Thousand Consecutive Cases.

Evening Session, 8.30 *o'clock.*

Z. T. Miller, M.D., Pittsburg. President's Annual Address.
Informal Reception to the Visiting Ladies.
Smoker for the Visiting "Brethren."

Wednesday, September 22.

Morning Session, 9.30 *to* 1 *o'clock.*

BUREAU OF CLINICAL MEDICINE.

Oliver S. Haines, M.D., Chairman.

Associates.—Clarence Bartlett, M.D.; W. Dod Bayley, M.D.; T. H. Carmichael, M.D.; James H. Closson, M.D.; P. H. Ealer, M.D.; Silas Griffith, M.D.; W. C. Goodno, M.D.; John E. Harner, M.D.; J. Richey Horner, M.D.; William H. Keim, M.D.; F. Mortimer Lawrence, M.D.; E. C. Parsons, M.D.; L. P. Posey, M.D.; J. H. Reading, M.D.; L. W. Reading, M.D.; Thomas Reading, M.D.; C. W. Roberts, M.D.; E. R. Snader, M.D.; M. D. Youngman, M.D.

Clarence Bartlett, M.D., Philadelphia. Clinical Experience with Locomotor Ataxia.

W. Dod Bayley, M.D., Philadelphia. The Acutely Unconscious.

Thomas H. Carmichael, M.D., Philadelphia. Neurasthenia in the Light of the Neuron Theory.

J. H. Closson, M.D., Philadelphia. Intestinal Worms—Cerebro-Spinal Symptomatology and Treatment.

W. C. Goodno, M.D., Philadelphia. The Circulatory Organs of the Aged.

D. S. Kistler, M.D., Wilkesbarre. Remarks on the Salient Points to be Observed in the Cure of Chronic Disease.

F. M. Lawrence, M.D., Philadelphia. A Statistical Study in Locomotor Ataxia.

C. W. Roberts, M.D., Scranton. Disorders of Sleep.

E. R. Snader, M.D., Philadelphia. The Bad Nauheim Treatment of Heart Disease.

M. D. Youngman, M.D., Atlantic City, N. J. The Class of Cases of Pulmonary Disease in which the Climate of Atlantic City, N. J., is Beneficial.

Bureau of Ophthalmology, Otology and Laryngology.

William Spencer, M.D., Chairman.

Associates.—W. H. Bigler, M.D.; W. W. Blair, M.D.; H. Ballou Bryson, M.D.; John Cooper, M.D.; Peter Cooper, M.D.; H. K. Hoy, M.D.; H. F. Ivins, M.D.; B. W. James, M.D.; H. I. Jessup, M.D.; L. L. Lazear, M.D.; C. H. Lee, M.D.; W. H. Lee, M.D.; F. W. Messervè, M.D.; H. F. Schantz, M.D.; I. G. Shallcross, M.D.; G. W. Stewart, M.D.; C. M. Thomas, M.D.; H. B. Ware, M.D.; H. S. Weaver, M.D.

William Spencer, M.D., Philadelphia. Résumé of Progress.

W. H. Bigler, M.D., Philadelphia. Congenital Amblyopia.

H. K. Hoy, M.D., Altoona. Nasal Dilatation.

Bushrod W. James, M.D., Philadelphia. Mydrin in Eye Examinations.

H. F. Schantz, M.D., Reading. Adenoid Vegetations in the Naso-Pharynx.

G. W. Stewart, M.D., Philadelphia. Ptosis—Its Surgical Treatment.

Horace B. Ware, M.D., Scranton. Diagnosis.

Harry S. Weaver, M.D., Philadelphia. Acute Follicular Tonsillitis.

Afternoon Session, 3 to 6 o'clock.

Bureau of Materia Medica.

Edward Cranch, M.D., Chairman.

Associates.—John D. Boileau, M.D.; Mary A. Cooke, M.D.; W. K. Detwiller, M.D.; W. G. Dietz, M.D.; J. C. M. Drake, M.D.; T. S. Dunning, M.D.; D. P. Gerberich, M.D.; G. H. Haas, M.D.; Augustus Korndœrfer, Sr., M.D.; C. S. Middleton, M.D.; Charles Mohr, M.D.; C. S. Schwenk, M.D.; W. A. Seibert, M.D.; R. T. White, M.D.

Edward Cranch, M.D., Erie. Gelsemium.

J. D. Boileau, M.D., Philadelphia. Some of the Reasons that Contribute to Failures in Homœopathy.

P. S. Duff, M.D., Great Belt. Baptisia Tinctoria.

Mary A. Cooke, M.D., Philadelphia. Nitric Acid.

C. S. Middleton, M.D., Philadelphia. Fragmenta.

Charles Mohr, M.D., Philadelphia. Homœopathic Uses of Cina.

C. S. Schwenk, M.D., Philadelphia. The Action of Drugs.

Bureau of Obstetrics.

W. F. Edmundson, M.D., Chairman.

Associates.—Mary Branson, M.D.; W. H. H. Bull, M.D.; J. H. Bullard, M.D.; H. M. Bunting, M.D.; G. M. Christine, M.D.; Ella D. Goff, M.D.; T. J. Gramm, M.D.; W. D. King, M.D.; J. B. McClelland, M.D.; E. W. Mercer, M.D.; G. B. Moreland, M.D.; F. R. Schmucker, M.D.; Pearl Starr, M.D.

G. M. Christine, M.D., Philadelphia. A Few General Considerations of the Surgical Aspect of Obstetrics.

T. J. Gramm, M.D., Philadelphia. A Biographical Sketch of Ignaz Philipp Semmelweiss Commemorating the Fiftieth Anniversary of the Introduction of the Antiseptic Method.

F. R. Schmucker, M.D., Reading. After the Baby is Born.

Pearl Starr, M.D., Bellevue. Cimicifuga in Obstetrics.

Evening, 8.30 *o'clock.*

Reception tendered to the Members and Visitors by the Homœopathic Medical Society of Northeastern Pennsylvania.

Thursday, September 23.

Morning Session, 9.30 *to* 12 *o'clock.*

Bureau of Gynæcology.

John E. James, M.D., Chairman.

Associates.—B. F. Betts, M.D.; Millie J. Chapman, M.D.; Mar-

garet M. Hassler, M.D.; C. H. Hofmann, M.D.; Augustus Korndœrfer, Jr., M.D.; J. W. Leckie, M.D.; W. J. Martin, M.D.; Eliza L. McClure, M.D.; Emma T. Schreiner, M.D.; I. G. Smedley, M.D.; J. H. Thompson, M.D.; Julia Gould Waylan, M.D.

John E. James, M.D., Philadelphia. Gynæcological Experience.

B. F. Betts, M.D., Philadelphia. The Surgical Treatment of the Irreducible Form of Uterine Anteflexion.

Margaret M. Hassler, M.D., Allentown. Constipation.

J. H. Sandel, M.D., Plymouth. A Case of Ovarian Tumor.

Emma T. Schreiner, M.D., Philadelphia. Some Effects of Cycling.

J. H. Thompson, M.D., Pittsburg. Pelvic Hæmatocele, with Illustrative Cases.

Julia Gould Waylan, M.D., Philadelphia. Uterine Prolapse.

Final Report of the Board of Censors.
Conclusion of Reports and Discussions.
Report of Committee on President's Address.
Unfinished Business.
New Business.
Election of Officers.
Selection of Place for the Next Meeting.
Appointment of Committees.
Announcement of Bureaus.
Adjournment.

TREASURER'S REPORT.

J. F. Cooper, M.D., in account with Homœopathic Medical Society of the State of Pennsylvania.

Dr.

Sept. 21, 1897.	Collected dues of members since last report, .	1155 00	
"	Sale of one copy of Repertory, ...	2 00	
"	Balance due the Society at last Report, . . .	20 98	
			$1177 98

Cr.

Sept. 24, 1896.	W. W. Van Baun, bills for letter-heads and circulars,	$31 00	
"	E. M. Gramm, printing copying book, and medical and surgical register, .	61 05	
"	Vanfleet & Son, bills for printing, . . .	27 95	
October 1.	Secretary's travelling allowance, ...	25 00	
"	Dr. Moreland's bill for envelopes and letter-heads, .	9 75	
"	Janitor's services, . .	10 00	
" 9.	H. Cadwallader, printing, .	5 50	
" 16.	Stenographer's bill, . .	65 00	
" 29.	Envelopes and printing for Treasurer, . . .	11 84	
Dec. 24.	Wm. C. Hannis, Esq., charter charges, . . .	100 60	
June 15, 1897.	Sherman & Co., printing, binding and mailing *Transactions* of '96, . .	685 53	
September 21.	Balance in hand, . .	144 76	
			$1177 98

Respectfully submitted,

J. F. Cooper, M.D.,

Treasurer.

On motion the Report of the Treasurer was received and referred to Drs. W. H. Keim, I. B. Gilbert and Anna C. Clarke, who were appointed the Auditing Committee by the President.

REPORT OF THE CORRESPONDING SECRETARY.

SCRANTON, September 21, 1897.

To the Officers and Members of the Homœopathic Medical Society of the State of Pennsylvania:

Your Corresponding Secretary has performed the routine duties pertaining to his office during the past year to the best of his ability. No communications of any interest to the members have been received by him, all having reference to the details of the work of the Society.

An innovation was determined upon, after consultation with a number of members prominently identified with the conduct of the meetings in the past. This innovation consisted in printing, in advance of the meeting, those papers which were placed in the Corresponding Secretary's hands for that purpose, so that those members who proposed to attend the present meeting and discuss some of the papers could have in their hands before the meeting those in which they had an interest, and could thus familiarize themselves with their contents. It is only by some procedure similar to the one tried that pertinent and thorough discussions can be developed. The expense to the Society is a trifling one, amounting to $10 for fifteen copies of nineteen papers, printed in galley-proof form. Were all papers prepared far enough in advance of each meeting, in the future, all who have something to add to medical knowledge could take some author's paper as a text to bring their experience before our members in a digested form. It is true that this effort to accomplish the drawing out of valuable experience is only an experiment this year. Your Corresponding Secretary is willing, however, for the sake of medical advancement (and particularly for advancement on homœopathic lines), to undertake the labor which is necessary in order to obtain

the papers sufficiently early to have them printed at the time that the programme of the meeting is ready for distribution to the profession of the State. It is hoped that a full discussion of this subject will determine some action by the Society looking to a continuance of the plan tried this year.

Fraternally submitted,

EDWARD M. GRAMM, M.D.,

Corresponding Secretary.

REPORT OF THE BOARD OF TRUSTEES.

W. W. VAN BAUN, M.D., reported for the Board of Trustees:

Mr. President, Ladies, and Gentlemen: At a meeting of the Society held in Philadelphia in 1896, the executive officers of your Society for that year were instructed to procure a charter of incorporation for the Society. Your instructions have been obeyed; the charter has been procured, and there it is (pointing to the document). We were rather startled in procuring it to find that we were compelled to create a Board of Trustees, in whom the business interests of the Society must be vested. The laws of our State made this necessary. Our Constitution and By-laws did not provide for such a body, but we had your instructions to go ahead, and we could not accomplish the end without this procedure. We have, therefore, a Board of Trustees, to serve until their successors are elected at this meeting. Three are to be elected to serve for three years, three to serve for two years, and three to serve for one year. Each succeeding year three are to be elected to serve for three years. They have been the parties in power since December 7, 1896, when the charter was granted us. These gentlemen are: Our President, Dr. Z. T. Miller, and Drs. Cooper, Keim, E. M. Gramm, Cranch, Maddux, W. B. Van Lennep, Mitchell, and Van Baun.

An important fact relating to our organization must not be forgotten—that the President, who is elected each year, must be a member of the Board of Trustees, in conformity to the laws of the State.

We have followed the instructions given by the attorney that we should formulate a series of By-laws, he recommending that

we should incorporate in them our old Constitution and By-laws, with such additions as were necessary or desirable. This we have done, and have provided the By-laws which are to govern the Society in the future. They are practically the same as the ones under which we have been working in the past.

We feel that we have done a good thing for the Society; and, at the same time, we have set a good example for the younger State societies to follow by having brought ourselves in line with the desire of the American Institute of Homœopathy to have the organization of the State societies of the different States patterned after one system.

We have accomplished the act, and trust that it will be satisfactory to you.

On motion the Report of the Trustees was accepted, their action endorsed, and the Committee appointed to procure the charter discharged, with the thanks of the Society.

REPORT OF THE BUREAU OF ORGANIZATION, REGISTRATION AND STATISTICS.

Your Bureau of Organization, Registration and Statistics herewith presents its annual report:

A detailed report will be presented showing the membership of 27 local societies, with their officers and places and times of meeting. Also will be presented a statement giving in detail the work accomplished by 10 hospitals and infirmaries, and by 7 free dispensaries, under homœopathic control in this State.

Our own Society, since our last report, has added to its active membership 26, giving us at present 313 active members, which, with our 11 honorary and 5 corresponding, gives us a total of 329. With the number of homœopathic physicians in the State we should have more, and each member should make every effort to add new members to our roll.

Of the 27 local societies reported, 26 have a membership of 1142, an increase of 78 over the membership of last year. The

Alumni Association of Hahnemann Medical College of Philadelphia has added 43 members to its list, giving it a membership of 1153. The 26 societies have a membership of 2275, an increase of 121 over the number previously reported.

Our hospitals and dispensaries have increased their work and usefulness. Our 10 hospitals and infirmaries have treated 5039 patients. The 7 dispensaries have treated or issued prescriptions for 174,868 persons. Your Committee, in view of the numerous complaints concerning the abuse of dispensary privileges, is not certain the increase in dispensary practice is to be received with congratulation; we believe that the rules governing dispensary treatment should be so reformed that only those unable to pay a physician should be treated in institutions of that character.

There have been no additions to the list of medical journals published in the State. The report concerning them will be found the same as last year.

We desire to acknowledge our thanks for the uniform promptness with which our requests for information have been met by the different societies, hospitals, dispensaries, and journals.

Geo. B. Moreland, M.D.,
Chairman.

HOMŒOPATHIC DISPENSARIES

Name.	Location.	Executive Officer or Secretary.
Homœopathic Free Dispensary.	Pittsburg.	W. D. Slack, Sup't.
Hahnemann Hospital Dispensary.	Philadelphia.	Wm. G. Foulke, 221 S. 5th St.
Children's Homœopathic Dispensary.	Philadelphia.	N. B. Kelly, 26 S. 15th St.
Dispensary of Women's Homœopathic Association of Penna.	Philadelphia.	Mrs. Theresa Keehmle.
St. Luke's Homœopathic Dispensary.	Philadelphia.	A. M. Barnes, M.D., Sup't.
Dispensary Women's Southern Homœopathic Hospital.	Philadelphia.	Annie M. Miller.

HOMŒOPATHIC HOSPITALS AND INFIRMARIES

Name.	Location.	Executive Officer.	When Incorporated.	When Opened to Patients.	No. of Beds.
Medical, Surgical and Maternity Hospitals of the Women's Hom. Association of Penna.	Philada.	Mrs. A. W. Sumner, Phila.	1882	1884	75
Home for the Aged Poor, Little Sisters of the Poor.	Pittsburg.	Sister Romaine Marie, Pittsburg.	1874	1884	152
Children's Hom. Hosp. of Phila.	Philada.	N. B. Kelly, The Bourse, Phila.	1877	1877	50
Christian Home for Women.	Allegh'ny	Mrs. J. F. Smith.	1868	1868	24
Homœopathic Medical and Surgical Hospital.	Pittsburg.	W. D. Slack, Supt.	1866	1866	160
Hahnemann Medical College Hospital.	Philada.	W. G. Foulke, Franklin Bldg.	1848	1869	250
Protestant Home for Incurables.	Pittsburg.	Mrs. Geo. Taylor, Hays St., Pitts'g.	1876	1878	60
St. Luke's Homœopathic Hospital of Philadelphia.	Philada.	A. M. Barnes, M.D., 3318 N. Broad St.	1896	1896	14
Women's Southern Homœopathic Hospital.	Philada.	Annie M. Miller, 1911 Mt. Vernon.	1896	1896	20
Infirmary of the Benedictine Sisters.	Erie.	.....	...	...	10

OF THE STATE OF PENNSYLVANIA.

Incorporated.	Opened to Patients.	No. of New Patients Last Year.	No. of Patients Treated Last Year.	No. of Prescriptions Last Year.	Cost of conduct'g	No. Visits to Out-Door Patients.	DELEGATE.
					$		
1866	1866	.....	18,894	18,894		...	
1848	1848	26,034	.....	94,447		1568	
1877	1877	.....	30,952	35,325		4323	
1883	1884	.....	3,559	12,304		3024	
1896	1896	3,431	14,982	13,580		...	
1896	1896	365	544	2,318		657	

OF THE STATE OF PENNSYLVANIA.

No. of Patients Treated Last Year.	Cured.	Relieved.	Not Relieved.	Died.	Estimated Value of Hospital and Grounds.	Amount of Productive Prop'ty	Sources of Income.	DELEGATE.
					$	$		
504	400	44	8	15	200,000.00	65,000.00	Donations Board of patients.	
34	8	11	0	15	150,000.00	.....	Donations	
279	217	31	21	10	75,000.00	17,000.00	Donations B'd pati's	
22	15	7	0	3	20,000.00	.....	Donations	
1823	1283	232	119	84	271,073.13	.....	.....	
1790	1291	208	92	119	600,000.00	223,761.00	Donations Cont's, Endow't.	
75	0	71	0	4	150,000.00	.....	.....	
303	277	...	...	26	.....	.....	Donations	
137	96	13	11	7	.....	.....	.....	
62	22	33	6	1	.....	.....	Donations	

HOMŒOPATHIC MEDICAL SOCIETIES

Name.	President.	Secretary.
Lehigh Valley Homœo. Medical Society.	E. D. Doolittle, M.D., Easton, Pa.	H. A. Fehr, M.D., Allentown, Pa.
Hom. Medical Society of Northeastern Penna.	H. B. Ware, M.D., Scranton, Pa.	Anna C. Clarke, M.D., Scranton, Pa.
Hom. Pharmaceutical Association of Penna.	F. J. Slough, M.D., Allentown, Pa.	E. P. Anshutz, M.D., Philadelphia.
Hom. Medical Society of Allegheny County.	H. B. Bryson, M.D., 524 Penn Ave., Pittsburg.	Geo. B. Moreland, M.D., 1321 5th Ave., Pittsburg.
Philadelphia Clinical Society.	C. M. Thomas, M.D., 1623 Arch St., Phila.	Wm. H. Bigler, M.D., 118 N. 17th St., Phila.
Philada. Medical Club.	Carl V. Vischer, M.D., 1429 Poplar St., Phila.	E. W. Mercer, M.D., 157 N. 15th St., Phila.
Hom. Med. Society of 23d Ward, Philada.	J. B. Heritage, M.D, Langhorne, Pa.	S. G. Godshall, M.D., Edge Hill, Pa.
Hom. Medical Society of Beaver County.	J. C. McCauley, M.D, Rochester, Pa.	Wm. Raymer, M.D., Beaver Falls.
Alumni Assocn. of Hahn. Med. College of Phila.	W. W. Van Baun, M.D., 1402 Spruce St., Phila.	W. D. Carter, M D., 1533 S. 15th St., Phila.
Hahnemann Club of Philadelphia.	A. Korndœrfer, Sr., M D., 1728 Green St., Phila.	Thos. S. Dunning, M.D., 1328 N. 15th, Phila.
Hom. Medical Society of County of Philadelphia.	Wm. H. Keim, M.D., 1726 N. 18th St.	Weston D. Bayley, M.D, 1438 Poplar, Phila.
A. R. Thomas Club of Philadelphia.	Percy H. Ealer, M.D., 815 N. 24th St.	Albert A. Norris, M.D., 4818 Chester Ave., Phila.
Homœopathic Med. Soc. of Germantown.	J. R. Mansfield, M.D., 5620 Germantown Ave.	J. H. Closson, M.D., 53 W. Chelten Ave., Germant'n.
Erie County Hom. Med. Society.	J. R. Phillips, M.D., Erie, Pa.	R. J. Martin, M.D., Erie, Pa.
Woman's Hom. Med. Soc. of Philadelphia.	Harriet J. Sartain, M.D., 212 W. Logan Sq., Phila.	Anna M. Marshall, M.D., 1928 Chestnut St.
Trousseau Clinical Club of Philadelphia.	W. D. Culin, M.D, 4028 Parrish St.	W. D. Carter, M.D., 1533 S. 15th St.
Pharmacological Society of the Hahn. Medical College of Phila	Chas. Mohr, M.D., 1823 Green St.	Chas. A. Ayres, M.D., 1643 S. Broad St.
Saturday Night Club of Microscopists.	J. C. Guernsey, M.D., 1923 Chestnut St.	Nathan Smilie, M.D., 249 E. Logan Square.
East End Doctors' Club of Pittsburg.	J. H. McClelland, M.D., 5th and Wilkins Ave.	R. S. Marshall, M.D., 424 Shady Avenue.
Oxford Medical Club of Philadelphia.	Dr. A. B. Lichtenwalner, 2435 N. 7th St.	Irwin B. Gilbert, M.D., 2027 Columbia Ave.
Hom. Medical Society of Chester, Delaware and Montgomery Counties.	Jos. E. Jones, M.D., 113 S. High, West Chester.	Isaac Crowther, M.D., 143 E. 7th St., Chester.
Hom. Practitioners' Association of Reading.	C. R. Haman, M.D., 213 N. 9th St.	F. W. Seidel, M.D., 362 N. Front St.
Hahnemann Association of Western Penna.	A. H. Childs, M.D., Pittsburg.	J. H. McClelland, M.D., 5th and Wilkins Ave.
Duquesne Med. Club of Pittsburg.	Geo. B. Moreland, M.D., 1321 5th Ave.	E. H. Pond, M.D., 2041 Wylie Ave.
Hom. Med. Soc. of Central Pennsylvania.	R. L. Piper, M.D., Tyrone, Pa.	A. L. Baker, M.D., Hollidaysburg, Pa.
Bœnninghausen Club of Philadelphia.	F. Buchman, M.D., 1609 S. Broad St.	Geo. W. Smith, M.D., 806 N. Broad St.
Schuylkill County Hom. Medical Society.	M. S. Kistler, M.D., Shenandoah.	G. M. Kistler, M.D., Lansford, Pa.

OF THE STATE OF PENNSYLVANIA.

When Organized.	When Incorporated	When Meetings are held.	Where Meetings are held.	No. Members.	No. Admitted Last Year.	No. Deceased Last Year.	Annual Dues.	Publications.	Delegate.
1887	Not.	Bi-Month.	Members' Residences.	30	1	1	$1.00	Papers	.....
1879	"	"	Scranton.	30	2	0	2.00	"	.....
1881	1881	At call of President.	Philada.	13	0	0	none	.....	....
1864	Not.	Monthly. (2d Tues.)	Homœop. Hospital.	72	10	0	2.00	Papers	W. J. Martin, M.D.
1880	"	Bi-Month.	Members' Residences.	10	0	0	none	"	.....
1880	"	Monthly.	"	14	3	0	"	"	.....
1881	"	Monthly. (3d Wed.)	"	22	0	0	1.50	"	T. J. Gramm, M.D.
1883	"	Monthly.	"	13	0	1	1.00	"	.....
1851	"	Annually.	Philada.	153	43	3	none	.....	.....
1872	"	Monthly.	Members' Residences.	12	2	0	"	Papers	.....
1866	"	Monthly. (2d Thur.)	Hahn.Med. College.	276	...	...	1.00	"	W. C. Goodno, M.D.
1888	"	Monthly.	Members' Residences.	22	2	0	none	"	J.C.Guernsey, M.D.
1877	"	Monthly. (3d Mon)	"	98	0	0	"	"	J. H. Closson, M.D.
...	"	Quarterly.	Y. M. C. A. Erie.	16	...	...	1.00	"	Edw. Cranch, M.D.
1883	"	Monthly.	Members' Residences.	17	0	0	none	"	.....
1895	"	"	"	25	3	0	3.00	"	G.A.Van Lennep,M.D.
1895	"	"	Hahn.Med. College.	24	0	0	2.00	Prov's	.....
1894	"	"	"	41	5	0	1.00	Papers	.....
1895	"	"	Members' Residences.	15	0	0	1.00	"	.....
1885	"	Monthly. (1st Fri.)	"	14	2	1	2.00	"	E. R. Snader, M.D.
1858	"	Bi-month.	No stated place.	32	2	0	1.00	"	D. P. Maddux, M.D.
1896	"	Monthly. (1st Tues.)	Reading.	13	3	0	1.00	"	.....
1896	"	Annually.	Pittsburg.	275	0	0	2.00	"	.....
1896	"	Monthly. (3d Fri.)	Members' Residences.	8	0	0	2.00	"	.....
1893	"	.....	.....	20	0	0	2.00	"	.....
1877	"	Monthly.	Members' Residences.	8	0	0	6.00	"	.....
1883	"	Quarterly.	"	22	0	0	1.00	"	.....

HOMŒOPATHIC MEDICAL JOURNALS OF THE STATE OF PENNSYLVANIA.

Name.	Editors and Publishers, and Place of Publication.	When Established.	Pages in each Number.	Subscription Price.	How often Published.	Form.	Delegate.
Hahnemannian Monthly	W. W. Van Baun, M.D., 1402 Spruce St., Phila.	1865	96 Total 138	$3.00	Monthly	Octavo.	.....
Homœopathic Envoy.	E. P. Anshutz, P. O. Box 921, Phila.	1890	8	.25	Monthly	Quarto.	.....
Homœopathic Recorder.	E. P. Anshutz—Boericke & Tafel, Phila.	1886	48	1.00	Monthly	Octavo.	.....
The Homœopathic Physician.	Walter M. James, M.D., 1231 Locust St., Phila.	1881	48	2.50	Monthly	Octavo.	.....
Hospital News.	Verner S. Goggin, M.D , Hom. Hosp., Pitts'g.	1896	8	.10	Monthly	Quarto.	.....
Hahnemannian Institute	Elected by Students, Philadelphia, Pa.	1893	16	.50	Monthly	Quarto.	.....

REPORT OF THE HAHNEMANN MONUMENT COMMITTEE.

W. J. Martin, M.D., Chairman of the Committee, reported that the bill granting a plot of ground in the Capitol grounds for the Hahnemann monument passed both houses of Congress, but failed to become a law by reason of the fact that President Cleveland neither vetoed nor signed it. A similar bill has been introduced at the present session of Congress, and good hopes exist that it will pass and receive the Executive endorsement.

At the recent meeting of the American Institute of Homœopathy nearly $3000 were subscribed. This is an example which our Society should imitate.

In the absence of the Treasurer of the Committee, Dr. B. W. James, Dr. Martin expressed his willingness to receive any subscriptions towards the monument fund.

A letter from Dr. J. H. McClelland was received in which attention was called to the fact that the proposition to erect the monument originated with our Society, and that our members should bestir themselves so that the funds necessary to ensure its completion will be forthcoming.

The Delegates to the Southern Institute of Homœopathy reported that the next meeting of the Institute would be held in the Assembly Rooms of the Tulane Hotel at Nashville, Tenn., on October 19, 20 and 21, 1897, and that all indications pointed to a profitable meeting. A warm invitation was extended to all homœopathic physicians to participate in the meeting.

NECROLOGIST'S REPORT.

In so far as it has been possible to discover, there have been but two deaths during the year among the members of the State Homœopathic Society—Dr. William D. Hall, of Altoona, and Dr. John Randolph Holcombe, of Philadelphia.

Dr. Hall was born in Anthony Township, Montour County, Pa., June 22, 1845. He was the son of the Rev. William S. Hall, D.D., an eminent Baptist divine, who died in 1867, and whose last pastoral charge was in Philadelphia. Dr. Hall was educated in the common schools of New York City, in the West Jersey Institute at Mt. Holly, N. J., and in the Madison

University, Hamilton, N. Y. When but a lad of sixteen the war broke out, and, burning with a love of country and zeal for preserving the integrity of the Union, he enlisted as a private in Col. Small's regiment and was with the Sixth Massachusetts in Baltimore during the riots of April 19, 1861. But his regiment being compelled to return to Philadelphia, not being armed, uniformed, nor sworn in the service, he, on April 20, returned to Philadelphia and enlisted in Co. K of the Cadwallader Grays, Seventeenth Pennsylvania Volunteers. He was discharged therefrom August 1, 1861. On the 21st of the same month he enlisted in Co. C, Lincoln Cavalry, which had been in active service one month. This regiment was afterwards known as the First New York. In spite of his youth he rose rapidly from the ranks to the grade of corporal, sergeant, second lieutenant, adjutant and provost captain, being brevetted by General Custer for gallantry at Five Forks, Sailor Run, and on many hard-fought battle-fields. After serving four years in active service and being broken down in health by disease and wounds, on June 5, 1865, his resignation was tendered and accepted by the war department, he considering the war virtually ended. He had received during his service nine wounds, yet would never apply for a pension, holding, in his own case, an idea that the Government was under no obligation to pension any soldier unless totally unfit, by reason of wounds or disease, to maintain himself. On January 22, 1865, he entered the Gray's Ferry Arsenal as clerk in the cloth room, and in a few days was promoted to a clerkship in the chief quartermaster's office, which position he soon resigned and began to study medicine under Dr. Samuel Brown, of Philadelphia. He graduated at the Homœopathic Medical College of Pennsylvania in March, 1867, taking first honors in a large class of graduates. After graduating he went to Williamsport, Pa., intending to locate, but the death of his father in June, 1867, changed his plans, and in the fall of that year he married and settled in Philadelphia. His wife died suddenly in 1868. Some time later he again married, and located at Carlisle, Pa., where he remained nine years. In October, 1877, he settled in Altoona, where he passed the remainder of his life.

Dr. Hall was always actively identified with the Grand Army of the Republic, and in that organization had a national reputation. Joining the order in 1868, he saw it flourish only to, for a time, fade away. He was first a member of Post 114 of Carlisle, under the old organization. For several years after that post was disbanded he kept out of the order, until February, 1878, when he joined Lieutenant S. C. Potts Post, No. 62, of Altoona, and became one of its most active members. His record of official service in the order is as follows: In 1879 he was elected surgeon and one of the council of administration; in 1880 he was commander of the post, member of the department encampment, and alternate delegate to the national encampment the same year. In 1881 he was appointed department delegate, and sent by Post 62 to the department encampment. In 1882 he was elected medical director of the encampment and received a silver service on vote of the encampment; was elected delegate to the National Encampment the same year. In 1883 and 1884 he was appointed to membership on the State Committee on Soldiers' Orphans' Schools, and in the latter year was elected post commander of Post 62 for the second time; was a member of the department encampment, made delegate by that body to the National Encampment, and chosen surgeon-general by the National Encampment, the highest medical position. In 1885 he was elected by his post as delegate to the department encampment.

He was always known as a warm and active friend of the soldier, and his pen, purse and influence were always at their disposal. He was an extensive writer on medical and military subjects. Dr. Hall, while not a trained orator, was a pleasant, forcible speaker, and his Memorial Day orations at Hollidaysburg, Bellwood and Williamsburg elicited praise and favorable comment. While in the army and during the war the Twentieth Ward of Philadelphia presented him with an elegant silver platter and salver and a costly painting of Washington. During his first commandership of Post 62, in 1880, he mustered 147 members into its ranks, and had the honor that year of having his post mentioned in the Adjutant-General's report as the second in the State.

While taking a keen interest in politics he never held office, and while repeatedly urged to be a candidate for the Senate or Legislature, always offered as an excuse his desire to attend to his professional labors. He was offered by the Independent Republicans the nomination for Congress but declined.

Among his military writings the most prominent are: General Doubleday's "Fredericksburg and Gettysburg Campaigns;" Pond's "Shenandoah Valley Campaigns;" General Northcote's "Milroy at Winchester." Also a "History of the First New York Lincoln Cavalry;" "General Custer and the Third Cavalry Division at the Appomattox Court House;" "How We Fought with General Sigel at New Market;" "The Failure of General Hunter's Valley Campaign;" and "The First Military Execution of the War."

Dr. Hall's review of Doubleday's "Fredericksburg and Gettysburg Campaigns" caused the author, in his second edition, to correct a number of errors that had been pointed out by his reviewer, and he sent Dr. Hall an author's copy and a complimentary letter of thanks. One of the Doctor's most caustic articles was his review of General Imboden's (Confederate States of America) paper, in Annals of War, in *Weekly Times*, entitled "Fire, Sword, and Halter." A medical paper on "Reckless Amputation by Army Surgeons" was considered as one of the keenest exposures of army surgeons' recklessness ever written.

For several years he was a valuable contributor to the *Turf, Field and Farm* on stock and agricultural matters, while two civil papers, "The Perfect Man" and "Living Too Fast the Disease of the Day," were widely copied and favorably commented upon. He was a ready, keen, and incisive writer, and had he confined himself to literature he would have reached prominence.

He was a member of the Baptist Church; was one of the charter members of Altoona Conclave, No. 132, Improved Order Heptasophs, of which conclave he was First Past Archon. He was a member of the United Order of American Workmen. He was a conspicuous figure in the homœopathic school of medicine, being one of the best known physicians in

the State and a leader in the Central Pennsylvania Homœopathic Medical Society. Besides his wife, whom he married on December 21, 1884, he is survived by one step-son, Mr. Willard Lee; one sister, Mrs. Leonard Greenawalt, of York, and a half-sister, Mrs. H. A. Spare, of Phœnix, Ariz.

He died at his home, 1423 Eleventh Avenue, at 4 in the afternoon, Monday, August 2, 1897. He had an attack of apoplexy on Sunday morning at an early hour, and did not again recover consciousness. He gradually grew weaker, and passed away without a struggle. The funeral occurred on Wednesday, August 4th, at 3.30 P.M., from his residence. The services were conducted by the Revs. H. H. Stiles, of the Second Presbyterian Church, H. N. Campbell, of the Broad Avenue Presbyterian, and S. F. Forgeus, of Huntingdon. Services were rendered by the Grand Army of the Republic. The interment, which took place at 6, was entirely private, the remains being accompanied only by the pall-bearers, the firing squad of the Grand Army, and the relatives.

These data were obtained from an autobiography, and were published in the Altoona *Tribune* of August 3d and the Altoona *Times* of the same date.

The editor of the *Times*, in an editorial, writes: "While he had a large practice, and was at the time of his decease the leading physician of the school of which he was a member, yet it was as a public-spirited citizen, and especially as the ardent champion of the rights and privileges of his comrades, the survivors of the Union Army, that he most deeply impressed himself upon his neighbors. Unquestionably to him the most important period of his life was the time spent in the service of his country.

"He did not condemn his comrades who looked at the pension in the light of a merited and honorable recognition of useful services; he was even swift to defend them when attacked; but for his part he felt that a pension, so long as he was able to maintain himself, was a thing he could not possibly accept."

Dr. Hall was also the painstaking compiler of the list of the dead, which list was published every year in the columns of

the Altoona *Tribune*, always a few days before Memorial Day. He went to great pains in the preparation of the individual list, and thereafter took careful note of every veteran whose body was laid to rest in any of the cemeteries of Blair county, adding the name to the record. This was a labor of love of which he never wearied.

Dr. John Randolph Holcombe was born in Lancaster county, Pa., January 13, 1849, being the son of Pearson and Hannah Holcombe. At the age of 14 he went to Philadelphia, where he became clerk in a dry goods store in Kensington. He subsequently engaged in the grocery business. He graduated from the medical department of the University of Pennsylvania in 1871. Although an old-school graduate he took up homœopathy early in his practice. While for a time he used both methods of practice, of late years he was recognized as a homœopathic physician. He was a member of the American Institute of Homœopathy, the Homœopathic Medical Society of the County of Philadelphia, and the Oxford Medical Club. He was a member of Solomon Lodge, No. 114, F. and A. M. In 1886 he joined the Homœopathic Medical Society of the State of Pennsylvania.

A little more than twenty-five years ago he married Miss Emma T. Buckman, of Philadelphia, who survives him, and by whom he had two children, Della K. and William B. Holcombe. The son, Dr. William B. Holcombe, is a graduate of the Hahnemann Medical College of Philadelphia, and is engaged in practice at the former residence of his father, No. 1509 Girard Avenue, Philadelphia.

Dr. Holcombe died at his home on Thursday evening, December 17, 1896, of liver and stomach trouble. He was a well-known physician, and was greatly respected by his friends and patrons.

Respectfully submitted,

T. L. Bradford, M.D.,
Necrologist.

REPORT OF THE BOARD OF CENSORS.

The Board of Censors examined into the professional standing of the following applicants for membership, and recom-

mended that they be elected. On motion, the recommendations of the Board of Censors were adopted, the candidates balloted for and elected.

George J. Berlinghof, M.D., .	1408 Capouse Ave., Scranton.
Woodward D. Carter, M.D., . .	1533 S. 15th St., Phila.
E. C. Cowperthwait, M.D.,	S. E. Cor. 17th and Ontario Sts., Phila.
J. W. Dehoff, M.D., ...	York, Penna.
D. S. Kistler, M.D., ...	Wilkesbarre.
Oliver H. Paxson, M.D., . .	123 N. 16th St., Phila.
R. L. Piper, M.D., ...	Tyrone.
C. Sigmund Raue, M.D., . .	121 N. 10th St., Phila.
S. S. Simmons, M.D., ...	Susquehanna.
J. J. Thompson, M.D., ...	Carbondale.
J. A. Walter, M.D., ...	Punxsutawney.
A. F. Yetter, M.D., ...	Moscow.

Scranton, September 21, 1897.

To the Homœopathic Medical Society of the State of Pennsylvania:

We, the Committee appointed to audit the accounts of the Treasurer, Dr. J. F. Cooper, respectfully report that we have performed the duty assigned us and find the accounts to be correct.

Wm. H. Keim, M.D., Chairman.
Anna C. Clarke, M.D.,
Irwin B. Gilbert, M.D.

On motion, the privilege of the floor was given to Drs. L. A. Martin, E. E. Snyder, Charles S. Wynnes and Elizabeth Corwin, of Binghamton, N. Y.; Dr. Park Lewis, of Buffalo, N. Y., and John T. Greenleaf, of Owego, N. Y.

The committee to whom was referred the subject of the advisability of printing the papers prior to the meetings in galley-proof form for distribution to those members who desire to discuss them reported as follows:

Your Committee, to whom was referred the subject of printing the papers in advance of the meeting in the form of galley-proofs, herewith reports that it has carefully considered the subject and suggests that the Corresponding Secretary, in con-

junction with the Chairman of each Section, be empowered to continue with this method; and, further, that the Chairmen of Sections be requested to appoint one or more members to open the discussion on each paper.

This recommendation is understood to not in any way preclude the reading of papers at the sessions of the Society.

B. F. Betts, M.D.
I. B. Gilbert, M.D.
G. M. Christine, M.D.
W. G. Steele, M.D.
E. M. Gramm, M.D.

After discussion the report was accepted, and the recommendations contained therein directed to be carried out.

Joseph E. Jones, M.D., offered an amendment for action at the next annual meeting by which the extension of time for reading a paper must be by unanimous consent of the members present.

Election for officers to serve for the ensuing year resulted in the selection of W. H. Keim, M.D., for President; First Vice-President, H. B. Ware, M.D.; Second Vice-President, Edward Cranch, M.D.; Recording Secretary, George B. Moreland, M.D.; Corresponding Secretary, Edward M. Gramm, M.D.; Treasurer, J. F. Cooper, M.D.; Necrologist, Thomas L. Bradford, M.D.; Censor, to serve for three years, J. W. Coolidge, M.D.

Trustees, to serve for three years, J. F. Cooper, M.D., Edward Cranch, M.D., and W. W. Van Baun, M.D.; to serve for two years, Edward M. Gramm, M.D., D. P. Maddux, M.D., and Z. T. Miller, M.D.; to serve for one year, W. H. Keim, M.D., J. N. Mitchell, M.D., and W. B. Van Lennep, M.D.

On motion, the members of the Homœopathic Medical Society of Northeastern Pennsylvania were tendered a vote of thanks for the handsome manner in which they entertained the visiting members.

A vote of thanks was tendered the press of Scranton, the Philadelphia *Ledger* and the Philadelphia *Press*, for newspaper courtesies.

The officers of the Society also received a vote of thanks for their efficient method of conducting the affairs of the Society.

A letter from William Willets, M.D., of Williamsport, was read. In consequence of the long years of membership of the doctor, it was moved and carried that his name be retained on the roll of membership without the payment of dues by him.

Pittsburg was selected as the place for the next meeting of the Society.

The following Sections and Committees were appointed:

Section of Clinical Medicine.—I. B. Gilbert, M.D., Chairman; Drs. Anna C. Clarke, S. W. Dinsmore, G. M. Getze, E. H. Kase, A. B. Lichtenwalner, Eliza Lang McClure, E. H. Pond, Mary E. Smith, E. R. Snader, Pearl Starr, W. R. Stephens, W. W. Van Baun, E. H. Van Deusen, Robert Walter, Associates.

Section of Gynæcology.—T. J. Gramm, M.D., Chairman; Drs. B. F. Betts, T. M. Bulick, W. D. Carter, Mary A. Cooke, Ella D. Goff, Joseph Hancock, John E. James, J. H. McClelland, L. W. Reading, I. G. Smedley, J. H. Thompson, R. E. Tomlin, Julia Gould Waylan, Associates.

Section of Materia Medica.—Augustus Korndœrfer, Sr., M.D., Chairman; Drs. Edward Cranch, W. G. Dietz, P. S. Duff, W. H. A. Fitz, D. R. Harris, J. R. Horner, A. L. Kistler, Malcolm Macfarlan, Charles Mohr, C. S. Schwenk, Associates.

Section of Obstetrics.—M. Hassler-Schantz, M.D., Chairman; Drs. Mary Branson, J. M. Caley, R. K. Fleming, D. C. Kline, Augustus Korndœrfer, Jr., Anna M. Marshall, E. W. Mercer, Emma T. Schreiner, Associates.

Section of Ophthalmology, Otology and Laryngology.—H. B. Ware, M.D., Chairman; Drs. W. W. Blair, C. H. Brown, H. F. Ivins, H. I. Jessup, W. H. Lee, R. W. McClelland, G. A. Mueller, H. F. Schantz, H. S. Weaver, Associates.

Section of Pædology.—C. S. Raue, M.D., Chairman; Drs. W. H. Bigler, F. W. Burlingame, Millie J. Chapman, W. H. Cooper, P. H. Ealer, W. F. Edmundson, T. P. Gittens, J. C. Guernsey, B. W. James, J. N. Mitchell, Eliza F. Pettingill, L. P. Posey, W. A. Seibert, Chandler Weaver, Associates.

Section of Pathology and Pathological Anatomy.—R. S. Marshall, M.D., Chairman; Drs. Clarence Bartlett, W. C. Goodno, P. S. Hall, W. K. Ingersoll, B. F. Kehler, J. C. Morgan, C. R. Palmer, W. E. Rotzell, J. W. Robson, Associates.

Section of Sanitary Science.—W. J. Martin, M.D., Chairman; Drs. A. W. Baily, C. F. Bingaman, A. P. Bowie, Isaac Crowther, Pemberton Dudley, H. F. Heilner, T. M. Johnson, B. W. James, C. W. Perkins, R. T. White, Associates.

Section of Surgery.—S. M. Rinehart, M.D., Chairman; Drs. G. M. Christine, E. R. Gregg, J. W. Hassler, C. H. Hofman, D. P. Maddux, H. L. Northrop, R. C. Pitcairn, W. G. Steele, C. P. Seip, Walter Strong, G. A. Van Lennep, W. B. Van Lennep, C. V. Vischer, B. K. Wilbur, L. H. Willard, Associates.

Committee on Organization, Registration and Statistics. —George B. Moreland, M.D., Chairman; Associates, Drs. J. F. Cooper, Edward M. Gramm.

Committee on Legislation.—H. C. Chisholm, M.D., Chairman; Associates, Drs. Clarence Bartlett, William K. Brown, Edward Cranch, Isaac Crowther, W. G. Dietz, Pemberton Dudley, D. P. Gerberich, Edward M. Gramm, Joseph C. Guernsey, W. A. Hassler, John E. James, Joseph E. Jones, Charles W. Karsner, Edmund H. Kase, Wm. H. Keim, Augustus Korndœrfer, Sr., D. P. Maddux, W. J. Martin, J. H. McClelland, C. S. Middleton, Charles Mohr, Hugh Pitcairn, J. H. Reading, H. F. Schantz, C. P. Seip, Isaac G. Smedley, W. B. Van Lennep, H. B. Ware, L. H. Willard.

Committee on Publication.—Edward M. Gramm, M.D., Chairman; Associates, Drs. J. F. Cooper, George B. Moreland.

Committee on Hahnemann Monument.—W. J. Martin, M.D., Chairman; Drs. George F. Baier, A. P. Bowie, Francis W. Boyer, S. E. Burchfield, J. C. Merle Drake, J. Ely, G. W. Gregory, John E. Harner, F. E. Harpel, L. K. Heath, H. K. Hoy, Thomas A. Irwin, Bushrod W. James, Joseph E. Jones, Theodore M. Johnson, E. N. Leake, Charles H. Lee, J. H. McClelland, S. B. Moon, E. C. Parsons, Hugh Pitcairn, E. B. Rossiter, W. A. Seibert, F. J. Slough, William Willets.

Delegates to Societies.

American Institute of Homœopathy.—Drs. J. W. Coolidge, J. H. McClelland, Charles Mohr.

Delaware State Society.—Drs. T. J. Gramm, W. E. Rotzell, W. G. Steele.

Interstate Committee of the American Institute of Homœopathy.—Drs. Edward M. Gramm, W. J. Martin.

Maryland State Society.—Drs. A. P. Bowie, H. F. Heilner, Joseph E. Jones.

Massachusetts State Society.—Drs. B. F. Betts, Augustus Korndœrfer, Sr., Duncan Macfarlan.

New Jersey State Society.—Drs. W. D. Bayley, D. P. Maddux, C. V. Vischer.

New York State Society.—Drs. I. G. Smedley, W. W. Van Baun, H. B. Ware.

Ohio State Society.—Drs. Edward Cranch, J. Richey Horner, T. M. Johnson.

Southern Institute of Homœopathy.—Drs. Millie J. Chapman, D. P. Gerberich, A. A. Lindabury.

OFFICERS OF THE SOCIETY FROM ITS ORGANIZATION TO THE PRESENT TIME.

PRESIDENTS.

1866. J. B. WOOD, M.D.,
1867. W. WILLIAMSON, M.D.,
1868. C. PRESTON, M.D.,
1869. W. WILLIAMSON, M.D.,
1870. O. B. GAUSE, M.D.,
1871. M. COTE, M.D.,
1872. J. H. MARSDEN, M.D.,
1873. B. W. JAMES, M.D. (February),
1873. J. F. COOPER, M.D. (October),
1874. C. A. STEVENS, M.D.,
1875. R. J. McCLATCHEY, M.D.,
1876. J. E. JONES, M.D.,
1877. J. C. BURGHER, M.D.,
1878. H. N. GUERNSEY, M.D.,
1879. L. H. WILLARD, M.D.,
1880. J. K. LEE, M.D.,
1881. J. H. McCLELLAND, M.D.,
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1883. P. DUDLEY, M.D.,
1884. W. R. CHILDS, M.D.,
1885. J. E. JAMES, M.D.,
1886. D. COWLEY, M.D.,
1887. A. R. THOMAS, M.D.,
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1894. C. S. MIDDLETON, M.D.,
1895. W. J. MARTIN, M.D.,
1896. W. W. VAN BAUN, M.D.,
1897. Z. T. MILLER, M.D.

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1871. R. FAULKNER, M.D.,
1872. H. N. GUERNSEY, M.D.,
1873. M. PRESTON, M.D. (February),
1873. M. FRIESE, M.D. (October),
1874. I. LEFEVER, M.D.,
1875. J. E. JONES, M.D.,
1876. J. C. BURGHER, M.D.,
1877. L. H. WILLARD, M.D.,
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1893. SARAH J. COE, M.D.,
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1897. W. H. KEIM, M.D.

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1872. S. F. CHARLTON, M.D.,
1873. J. C. BURGHER, M.D. (February),
1873. H. R. FETTERHOFF, M.D. (October),
1874. W. F. SPETH, M.D.,
1875. H. N. MARTIN, M.D.,
1876. J. E. JAMES, M.D.,
1877. J. E. JAMES, M.D.,
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1873–1878. M. M. WALKER, M.D.,
1879–1882. Z. T. MILLER, M.D.,
1883. T. M. STRONG, M.D.,
1884, 1885. C. BARTLETT, M.D.,
1886, 1887. H. F. IVINS, M.D.,
1888, 1889. J. H. CLOSSON, M.D.,
1890–1894. J. R. HORNER, M.D.,
1895. E. M. GRAMM, M.D.,
1896, 1897. G. B. MORELAND, M.D.

CORRESPONDING SECRETARIES.

1866–1872. R. J. McCLATCHEY, M.D.,
1873–1875. P. DUDLEY, M.D.,
1876–1879. J. C. GUERNSEY, M.D.,
1880–1885. R. E. CARUTHERS, M.D.,
1886–1888. C. BARTLETT, M.D.,
1889–1894. E. R. SNADER, M.D.,
1895. J. R. HORNER, M.D.,
1896, 1897. E. M. GRAMM, M.D.

TREASURERS.

1866. D. COWLEY, M.D.,
1867. H. H. HOFMANN, M.D.,
1868. W. WILLIAMSON, M.D.,
1870. W. J. BLAKELY, M.D.,
1871–1873 (February) O. B. GAUSE, M.D.,
1873 (October) and 1874. R. J. McCLATCHEY, M.D.,
1875–1897. J. F. COOPER, M.D.

NECROLOGISTS.

1872–1883. W. R. CHILDS, M.D.,
1884. M. M. WALKER, M.D.,
1885–1889. W. R. CHILDS, M.D.,
1890–1894. W. J. MARTIN, M.D.,
1895, 1896. T. S. DUNNING, M.D.,
1897. T. L. BRADFORD, M.D.

CHARTER

OF THE

HOMŒOPATHIC MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

To the Honorable, the Judges of the Court of Common Pleas of Philadelphia County, Pennsylvania.

In compliance with the requirements of an Act of the General Assembly of the Commonwealth of Pennsylvania entitled "An Act to Provide for the Incorporation and Regulation of Certain Corporations," approved the twenty-ninth day of April, A.D. 1874, and the supplements thereto, the undersigned, all of whom are citizens of Pennsylvania, having associated themselves together, with others hereinafter named, for the purpose hereinafter specified, and desiring that they may be incorporated according to law, do hereby certify:

First, The name of the proposed Corporation is The Homœopathic Medical Society of the State of Pennsylvania.

Second, The said Corporation is formed for the purpose of organizing the Homœopathic Medical Profession in the State of Pennsylvania and advancing Medical Sciences.

Third, The business of said Corporation is to be transacted in the City of Philadelphia.

Fourth, The said Corporation is to exist perpetually.

Fifth, The names and residences of the Corporators are as follows: William W. Van Baun, M.D., Philadelphia; John F. Cooper, M.D., Allegheny; Edward M. Gramm, M.D., Philadelphia; Z. T. Miller, M.D., Pittsburg; William B. Van Lennep, M.D., Philadelphia; Edward Cranch, M.D., Erie; Augustus Korndœrfer, Sr., M.D., Philadelphia; Alonzo P. Bowie, M.D., Uniontown; Clarence Bartlett, M.D., Philadelphia; Hugh Pitcairn, M.D., Harrisburg; Pemberton Dudley, M.D., Philadelphia; L. H. Willard, M.D., Allegheny; William C. Goodno, M.D., Philadelphia; Daniel P. Maddux, M.D., Chester; J. N.

Mitchell, M.D., Philadelphia; Horace B. Ware, M.D., Scranton; William H. Keim, M.D., Philadelphia; W. A. Seibert, M.D., Easton; Charles M. Thomas, M.D., Philadelphia; J. H. McClelland, M.D., Pittsburg; John E. James, M.D., Philadelphia; Joseph E. Jones, M.D., West Chester; Isaac G. Smedley, M.D., Philadelphia; H. C. Chisholm, M.D., Huntingdon; T. H. Carmichael, M.D., Philadelphia, all of the State of Pennsylvania.

Sixth, The number of Trustees of said Corporation is fixed at nine, and the names and residences of those who are chosen as Trustees until the next annual election are as follows: William W. Van Baun, M.D., Philadelphia; John F. Cooper, M.D., Allegheny; E. M. Gramm, M.D., Philadelphia; Z. T. Miller, M.D., Pittsburg; William B. Van Lennep, M.D., Philadelphia; Edward Cranch, M.D., Erie; William H. Keim, M.D., Philadelphia; J. N. Mitchell, M.D., Philadelphia; Daniel P. Maddux, M.D., Chester.

Seventh, At the next annual election for Trustees of the Corporation three Trustees shall be elected to serve for the term of one year, three others to serve for the term of two years, and three others to serve for the term of three years, and thereafter annually three Trustees shall be elected to serve for the term of three years in the place of those whose terms expire.

Witness our hands and seals this third day of November, A.D. eighteen hundred and ninety-six.

WILLIAM W. VAN BAUN, M.D. [L.S.]
WILLIAM B. VAN LENNEP, M.D. [L.S.]
CLARENCE BARTLETT, M.D. [L.S.]
W. C. GOODNO, M.D. [L.S.]
J. NICHOLAS MITCHELL, M.D. [L.S.]

Commonwealth of Pennsylvania, }
County of Philadelphia, } ss.

Before me, the subscriber, a Notary Public for the Commonwealth of Pennsylvania, residing in the City of Philadelphia, personally appeared Wm. W. Van Baun, M.D., Wm. B. Van Lennep, M.D., and Clarence Bartlett, M.D., three of the subscribers of the above and foregoing certificate of incorporation of The

Homœopathic Medical Society of the State of Pennsylvania, and in due form of law acknowledged the same to be their act and deed.

Witness my hand and official seal the third day of November, A.D. 1896.

[L.S.] WINFIELD S. SHEARD,
Notary Public.

In the Court of Common Pleas for Philadelphia County.
In the matter of the Incorporation of The Homœopathic Medical Society of the State of Pennsylvania.

And now, to wit, this seventh day of December, A.D. 1896, the within Certificate of Incorporation having been on file in the Office of the Prothonotary of said Court since the twelfth day of November, A.D. 1896, on which publication of notice of intended application was first made, as appears from the entry thereon, and due proof of said publication having been presented to me, I do hereby certify that I have perused and examined said instrument, and find the same to be in proper form and within the purposes named in the first class of Corporations specified in Section 2 of the Act of April 29, 1874, and that said purposes are lawful and not injurious to the community. It is, therefore, on motion of William C. Hannis, Esq., ordered and decreed that the said Charter be approved and is hereby approved, and upon the recording of the said Charter and its endorsements and this decree in the office of the Recorder of Deeds in and for said County, which is now hereby directed, the subscribers and their associates shall thenceforth be a Corporation for the purposes and upon the terms and under the name therein stated.

[L.S.] T. K. FINLETTER,
Judge.

Recorded in the Office for Recording Deeds, etc., in and for the City and County of Philadelphia in Charter Book No. 22, page 284, etc.

Witness my hand and Seal of Office this seventh day of December, A.D. 1896.

[L.S.] WM. GEARY,
Recorder of Deeds.

BY-LAWS.

ARTICLE I.—Title.

This Corporation shall be known by the name and title of The Homœopathic Medical Society of the State of Pennsylvania.

ARTICLE II.—Object.

The said Society is formed for the purpose of organizing the homœopathic medical profession in the State of Pennsylvania and advancing medical sciences.

ARTICLE III.—Membership.

Section 1. This Society shall be composed of active, honorary and corresponding members.

Sec. 2. A candidate for active membership shall present to the Board of Censors an application, signed by himself, certifying that he has received the degree of Doctor of Medicine from an incorporated medical college, that he subscribes to the doctrine of *Similia Similibus Curantur*, and that he sustains a good moral character—these statements to be vouched for by two members of the Society in good standing. If found qualified, he may be elected a member. He shall not, however, be considered a member until he has paid the first year's dues and signed the Constitution, either in person or by proxy. An active member removing from the State, wishing to retain his membership, shall notify the Corresponding Secretary to that effect, otherwise the Corresponding Secretary shall drop his name from the roll. Any active member who shall be three years in arrears for dues shall forfeit his membership, and he shall not be reinstated until all arrearages shall have been paid. Membership shall also be forfeited by vote of the Society if a member fails to attend the meetings of the Society or present

a paper once in five years. Any active member who shall be unable to comply with the requirements of this Society may be continued as an active member, without the payment of dues, by vote of the Society.

Sec. 3. Any Homœopathic physician not a resident of Pennsylvania who, from his superior attainments, may be judged worthy, may, by a two-thirds vote of the members present, be elected an honorary member at any annual meeting; but no more than two shall be elected in one year. Honorary members shall have all the privileges of membership except the right to vote and to hold office, and shall be exempt from dues.

Sec. 4. Any Homœopathic physician residing outside of the United States may be elected a corresponding member by a vote of two-thirds of the members present at any annual meeting, but not more than two shall be elected in one year. Corresponding members shall have all the privileges of membership except the right to vote and to hold office, and shall be exempt from dues.

ARTICLE IV.—Officers.

Section 1. The officers of this Society shall be a President, a First Vice-President, a Second Vice-President, a Recording Secretary, a Corresponding Secretary, a Treasurer, a Necrologist, a Board of Trustees consisting of nine members, and a Board of Censors consisting of three members.

Sec. 2. The officers shall be elected by ballot at each annual meeting of the Society, and shall enter upon their respective duties on the first day of January next succeeding their election, to serve for the term of one year, or until their successors are elected, except as hereinafter provided.

Sec. 3. The Board of Trustees shall serve for a term of three years, three members to be elected annually.

Sec. 4. The Censors shall be elected to serve for three years, one member to be elected annually.

ARTICLE V.—Duties of Officers.

Section 1. The President shall preside at all meetings of the Society. He shall preserve order, appoint all committees unless

otherwise directed, give orders on the Treasurer according to the By-Laws, and discharge all other duties usually pertaining to a presiding officer, in accordance with the provisions of the Charter and these By-Laws. He shall be, *ex officio*, a member of all standing committees of the Society. He shall not be eligible to office two terms in succession.

Sec. 2. The Vice-Presidents, in the order of their election, shall perform the duties of the President in his absence.

Sec. 3. The Recording Secretary shall keep correct minutes of the proceedings of the Society, and, when approved, transcribe them in a book kept for that purpose. He shall have charge of the minute-book, all papers, documents, etc., belonging to the Society, other than those pertaining to the Treasurer, the Trustees, or the Committee on Publication, and shall keep them during the intervals of the meetings of the Society. Within twenty-one days after adjournment he shall furnish the Committee on Publication with a correct copy of the minutes for publication in the Transactions, countersign orders upon the Treasurer in accordance with the By-Laws, and shall perform such other duties pertaining to his office as may from time to time be required. He shall be, *ex officio*, Chairman of the Committee on Organization, Registration and Statistics.

Sec. 4. The Corresponding Secretary shall preserve all letters received by the Society, conduct such correspondence as shall tend to advance its interests, prepare the order of business for the annual session of the Society, give at least two weeks' notice of all meetings, keep a record of all members, with the date of admission of each, present all communications to the Society, notify all committees of their appointment and of the business referred to them, and notify all members of their election. He shall be, *ex officio*, Chairman of the Committee on Publication.

Sec. 5. The Treasurer shall hold the evidence of all property belonging to The Homœopathic Medical Society of the State of Pennsylvania, receive all moneys intended for the Treasury of the Society, and deposit the same in the name of The Homœopathic Medical Society of the State of Pennsylvania as shall be directed by the Board of Trustees, make no payments except

on orders drawn in accordance with the By-Laws, keep a full account of receipts and expenditures, which shall at all times be open to the inspection of the Board of Trustees, make a report to the Society in writing at each annual meeting, and, whenever required, of the state of his accounts and the condition of the Treasury, and shall annually notify all members of their arrearages.

Sec. 6. The Necrologist, upon the death of a member of the Society, shall prepare a suitable obituary and present it to the Society at its annual meeting.

Sec. 7. The Trustees shall have general supervision of the business of the Society, hold at least one meeting every year, and make a report at the annual session of the Society. They shall issue written orders upon the Treasurer, countersigned by the President and Recording Secretary, authorizing the payment of all moneys.

The Trustees, acting as the Judicial Council, shall take cognizance of, and decide upon all questions of an ethical or judicial character. All questions of a personal character shall be referred at once, without discussion, to the Judicial Council. Every decision of the Council shall be in writing, signed by a majority of the members present, be reported to this Society at the earliest practical moment, and shall be final. The Council shall preserve permanent records of all its proceedings.

Sec. 8. The Censors shall examine the credentials of candidates for membership, and report to the Society for election those who may be found qualified. They may report in the regular order of business, or at the close of the report of any bureau.

ARTICLE VI.—Meetings.

Section 1. The annual meeting shall be held in the month of September, at nine A.M., on the days and at the place decided upon at the annual meeting next preceding.

Sec. 2. Nine members shall constitute a quorum for the transaction of the ordinary business of the Society; but for scientific or literary purposes, unless an actual count be called for, a quorum shall always be presumed. For amending the By-Laws, twenty members shall constitute a quorum.

Sec. 3. The Board of Trustees shall have power to direct such other meetings as it may judge advisable.

Sec. 4. Should occasion arise making it necessary to change the time and place of meeting agreed upon at the previous annual session, the same may be done by a vote of the Board of Trustees.

ARTICLE VII.—Dues.

Active members shall pay annually, in advance, the sum of five dollars towards defraying the expenses of the Society. Any member who shall fail to pay his annual dues for three successive years shall be dropped from the roll of members, after having been notified by the Corresponding Secretary of the forfeiture of his membership. The published proceedings of the Society will be furnished only to those members who are not in arrears for dues.

ARTICLE VIII.—Sections.

Section 1. The following sections shall be appointed as hereinafter provided:

Materia Medica and Provings.
Homœopathic Institutes and Clinical Medicine.
Surgery.
Obstetrics.
Gynæcology.
Pathology and Pathological Anatomy.
Ophthalmology, Otology and Laryngology.
Pædology.
Sanitary Science.

Sec. 2. Each Section shall be composed of not less than five members, and no member shall be placed on more than one Section.

Sec. 3. The Sections shall report in order of rotation each succeeding year, except the Section of Materia Medica, whose report shall be a special order of business at the opening of the afternoon session of the second day of the Society meeting.

Sec. 4. Immediately upon the close of the report of a Section, the President shall appoint a chairman for the ensuing

year; and the chairman shall, in conjunction with the President, select his associates, and the list of the members of the Sections shall be announced before the close of the meeting.

Sec. 5. If a member of a Section shall resign or decline to serve, the Chairman of the Section shall fill the vacancy and notify the Corresponding Secretary of his action.

ARTICLE IX.—Standing Committees.

The following Committees shall be appointed as hereinafter provided:

A Committee on Legislation, of at least nine members, to be appointed by the President, whose duty it shall be to give special attention to all legislation involving the interests of the Society.

A Committee on Organization, Registration and Statistics, of at least three members, to be appointed by the President, of which the Recording Secretary shall be Chairman. It shall receive all credentials of delegates to the Society; receive and preserve reports from local and State societies, colleges and other institutions; keep a record of the number of members admitted and withdrawn from the Society, and perform such other duties as may be directed by the Society. From these data the annual report of the Committee shall be prepared.

A Publication Committee, consisting of the Treasurer, Recording Secretary and Corresponding Secretary, the latter being Chairman; but the number of its members may be increased at the discretion of the Society. It shall be the duty of the Committee within six months from the date of the annual meeting to publish and issue the Transactions to all who are entitled to receive them, unless otherwise directed by the Society.

ARTICLE X.—Papers and Discussions.

Section 1. Each paper presented to this Society shall be through its appropriate Section. All papers to be presented by any Section shall be in the hands of the Chairman thereof at the opening of the session. All papers shall be subject to the approval and revision of the Publication Committee. No paper

will be received by the Society in an incomplete condition, and no paper will be published as part of the TRANSACTIONS which has been published previous to its presentation to this Society. No paper shall occupy more than fifteen minutes in the reading, unless the time be extended by vote of the Society. In the absence of the author of a paper the Chairman of its appropriate Section may request any member of the Society to read the same, or it shall be read at the request of five members. Any paper may be published in a medical journal subsequent to its presentation to the Society, provided that the original be retained in the custody of the Publication Committee.

All communications read before the Society shall become its property.

SEC. 2. The discussion shall follow the reading of each paper, unless otherwise ordered by the Society. All discussions shall be confined to the subject of the paper or report. No member shall speak more than twice on the same subject, except by vote of the Society, and each speaker shall be limited to a speech of ten minutes, and to one of five minutes if he speaks a second time. No excess of time shall be allowed, except by consent of the Society. The reader of the paper shall be allowed ten minutes at the close of the discussion.

ARTICLE XI.—SEAL.

The Society shall have and use one common seal. The Corresponding Secretary shall be the custodian of the seal.

ARTICLE XII.—SENIOR MEMBERS.

Members of the Society who shall have maintained twenty-one years of consecutive membership shall be Senior Members, and their names shall be printed in capital letters in the list of members in the TRANSACTIONS.

ARTICLE XIII.—CODE OF ETHICS.

SECTION 1. The Code of Ethics of the American Institute of Homœopathy is adopted by this Society for its guidance.

SEC. 2. All complaints of violation of the Code of Ethics

shall be referred to the Judicial Council, and the decision of the Council shall be final.

ARTICLE XIV.—Minutes.

The reading of the minutes for approval and record shall be the first order of business at the morning meetings of the Society, and at the close of the final session.

ARTICLE XV.—Amendments.

These By-Laws may be altered or amended by a vote of two-thirds of the members present at any annual meeting; *provided* that notice of such proposed alteration or amendment shall have been given to the Society in writing at the annual meeting next preceding, and notice of such proposed alteration or amendment shall appear in the call for the meeting at which it is to be acted upon.

LIST OF MEMBERS.

1892—Baier, George F., M.D., Norwood.
1889—Baily, A. W., M.D., 1809 Pacific Ave., Atlantic City, N. J.
1896—Baker, Albra W., M.D., Emporium.
1881—Bartlett, Clarence, M.D., 1506 Arch Street, Philadelphia.
1889—Bayley, Weston D., M.D., 1438 Poplar St., Philadelphia.
1897—Berlinghof, George J., M.D., 1408 Capouse Ave., Scranton.
1875—BETTS, B. F., M.D., 1609 Girard Avenue, Philadelphia.
1886—Bier, P. A., M.D., 4200 Butler Street, Pittsburg.
1892—Bigelow, W. S., M.D., Phillipsburg.
1872—BIGLER, W. H., M.D., 118 N. 17th Street, Philadelphia.
1873—BINGAMAN, C. F., M.D., 922 Penn Avenue, Pittsburg.
1896—Birch, J. P., M.D., 3801 Powelton Avenue, Philadelphia.
1894—Bittner, Albert Jacob, M.D., Allentown.
1892—Blair, W. W., M.D., 400 Penn Avenue, Pittsburg.
1892—Boileau, John D., M.D., 804 W. Lehigh Ave., Philadelphia.
1892—Books, B. F., M.D., 1117 Twelfth Avenue, Altoona.
1872—BOWIE, A. P., M.D., 372 Main Street, Uniontown.
1884—Boyd, G. S., M.D., Beaver Falls.
1880—Boyd, J. S., M.D., New Brighton.
1882—Boyer, Francis W., M.D., Pottsville.
1894—Bradford, Thomas Lindsley, M.D., 1862 Frankford Avenue, Philadelphia.
1883—Branson, Mary, M.D., 1719 Arch Street, Philadelphia.
1896—Brewer, Mary, M.D., 330 E. Chelten Ave., Gtn., Philadelphia.
1895—Brewster, F. D., M.D., Scranton.
1895—Brierly, F. Walter, M.D., 2109 W. Susquehanna Ave., Phila.
1891—Brown, C. H., M.D., 1824 Diamond Street, Philadelphia.
1895—Brown, Lincoln S., M.D., 636 Penn Avenue, Pittsburg.
1894—Brown, S. G. A., M.D., Shippensburg.
1891—Brown, William K., M.D., 1311 N. Broad St., Philadelphia.
1893—Bryson, H. Ballou, M.D., 524 Penn Avenue, Pittsburg.
1885—Buchman, Francis, M.D., 1609 S. Broad St., Philadelphia.
1886—Bulick, T. M., M.D., 115 South Street, Harrisburg.
1892—Bull, William H. H., M.D., Atlantic City, N. J.

1877—Bullard, J. A., M.D. 130 S. Main Street, Wilkesbarre.
1881—Bunting, H. M., M.D., 521 Swede Street, Norristown.
1888—Burchfield, S. E., M.D., 803 Ligonier Street, Latrobe.
1891—Burlingame, F. W., M.D., 423 Fifth Avenue, McKeesport.
1866—BURGHER, J. C., M.D., 960 Penn Avenue, Pittsburg.
1896—Caley, Joseph M., M.D., 1513 Green Street, Philadelphia.
1888—Carmichael, T. H., M.D., 7127 Germantown Avenue, Philadelphia.
1897—Carter, Woodward D., M.D., 1533 S. 15th St., Philadelphia.
1875—CHAPMAN, MILLIE J., M.D., 804 Penn Ave., Pittsburg.
1888—Chisholm, H. C., M.D., 528 Penn Street, Huntingdon.
1891—Cleeland, J. S., M.D., 5936 Penn Avenue, Pittsburg.
1893—Clark, George H., M.D., 4 Walnut Lane, Germantown, Philadelphia.
1889—Clarke, Anna C., M.D., 426 Adams Avenue, Scranton.
1886—Closson, J. H., M.D., 53 W. Chelten Ave., Germantown, Phila.
1894—Conarroe, Thomas H., M.D., 872 N. 26th Street, Philadelphia.
1883—Coe, Sarah J., M.D., 92 N. Franklin Street, Wilkesbarre.
1895—Cook, W. C., M.D., 327 Grandview Avenue, Pittsburg.
1894—Cooke, Mary A., M.D., 2113 N. 18th Street, Philadelphia.
1889—Coolidge, J. W., M.D., 334 Washington Ave., Scranton.
1889—Cooper, Isaac, M.D., 194 S. Broad Street, Trenton, N. J.
1887—Cooper, John, M.D., 54 Arch Street, Allegheny.
1866—COOPER, J. F., M.D., 105 Arch Street, Allegheny.
1894—Cooper, Peter, M.D., 502 Delaware Avenue, Wilmington, Del.
1895—Cooper, Wm. H., M.D., Oakmont.
1887—Cowley, William, M.D., 6412 Penn Avenue, Pittsburg.
1897—Cowperthwait, E. C., M.D., S. E. cor. 17th and Ontario Sts., Philadelphia.
1882—Cranch, Edw., M.D., 109 W. Ninth Street, Erie.
1885—Crowther, Isaac, M.D., 143 E. 7th Street, Chester.
1891—Davis, B. L., M.D., Bellevue.
1897—Dehoff, J. W., M.D., York, Penna.
1866—DETWILLER, JOHN J., M.D., 52 Center Square, Easton.
1893—Detwiller, W. K., M.D., Easton.
1886—Dietz, W. G., M.D., 21 N. Vine Street, Hazleton.
1878—Dinsmore, S. W. S., M.D., Sharpsburg.
1895—Doyle, H. H., M.D., 485 Fifth Avenue, Pittsburg.
1891—Drake, J. C. Merle, M.D., 720 Sassafras Street, Erie.
1867—DUDLEY, PEMBERTON, M.D., 1405 N. 16th St., Phila.
1878—Duff, P. S., M.D., Great Belt.
1882—Du Four, W. M., M.D., 755 W. Third Street, Williamsport.

1881—Dunning, T. S., M.D., 1328 N. 15th Street, Philadelphia.
1893—Ealer, Percy H., M.D., 815 N. 24th Street, Philadelphia.
1891—Ely, J., M.D., Washington.
1873—EDMUNDSON, W. F., M.D., 1321 Fifth Avenue, Pittsburg.
1896—Esrey, L. K., M.D., 1642 Pine Street, Philadelphia.
1895—Fitz, W. H. A., M.D., 819 N. 25th Street, Philadelphia.
1892—Flint, Harvey E., M.D., West 11th Street, Erie.
1892—Flint, John F., M.D., 1112 Peach Street, Erie.
1884—Fleming, R. K., M.D., 6224 Station Street, Pittsburg.
1873—FULTON, H. W., M.D., 5949 Penn Avenue, Pittsburg.
1889—Gangloff, Charles, M.D., 6 S. Main Street, Pittsburg.
1892—Gerberich, D. P., M.D., Lebanon.
1886—Gerhart, Jos. M., M.D., 1127 Mt. Vernon St., Philadelphia.
1879—Getze, G. M., M.D., Tarentum.
1891—Gilbert, Irwin B., M.D., 2027 Columbia Ave., Philadelphia.
1885—Giles, J. William, M.D., Nyack, N. Y.
1894—Gittens, Theodore P., M.D., 1716 Diamond St., Philadelphia.
1891—Goff, Ella D., M.D., 41 N. Diamond Street, Allegheny.
1875—GOODNO, W. C., M.D., 1724 Chestnut Street, Philadelphia.
1883—Gramm, Edward M., M.D., 35 S. 19th St., Philadelphia.
1867—GRAMM, G. E., M.D., Ardmore.
1883—Gramm, Theo. J., M.D., 846 N. Broad St., Philadelphia.
1895—Gregg, Edw. R., M.D., 334 S. Highland Avenue, Pittsburg.
1889—Gregory, G. W., M.D., Troy.
1888—Griffith, Louis B., M.D., 2526 Ridge Ave., Philadelphia.
1881—Griffith, Silas, M.D., 1431 Girard Avenue, Philadelphia.
1877—Griffith, W. M., M.D., 2035 Ridge Avenue, Philadelphia.
1886—Grimes, Thomas H., M.D., Sewickley.
1874—GUERNSEY, J. C., M.D., 1923 Chestnut Street, Philadelphia.
1867—GUMPERT, B. BARTON, M.D., 840 Franklin St., Phila.
1886—Gundlach, F. C., M.D., 1722 Sarah Street, Pittsburg.
1894—Haas, George H., M.D., Allentown.
1885—Haines, O. S., M.D., 137 N. 15th Street, Philadelphia.
1896—Hall, P. Sharples, M.D., 1604 Arch Street, Philadelphia.
1887—Haman, W. A., M.D., 122 N. 8th Street, Reading.
1883—Hancock, Jos., M.D., 1639 Columbia Ave., Philadelphia.
1891—Harpel, F. E., M.D., Danville.
1888—Harner, John E., M.D., 117 S. 5th Street, Reading.
1884—Harris, D. R., M.D., 41 N. Jefferson Street, New Castle.
1892—Hassler, J. Wyllis, M.D., 1503 Poplar St., Philadelphia.
1883—Hassler, W. A., M.D., 105 N. 8th Street, Allentown.
1893—Heath, L. R., M.D., Mercer.

1895—Heilner, H. F., M.D., Scranton.
1883—Helfrich, J. H., M.D., Allentown.
1892—Heritage, A. C., M.D., Jenkintown.
1873—HERRON, C. D., M.D., California.
1892—Hill, E. H., M.D., Tunkhannock.
1882—Hofman, C. H., M.D., 510 S. Highland Avenue, Pittsburg.
1883—Holben, M. J., M.D., Slatington.
1892—Holsberg, W. H., M.D., Lebanon.
1883—Horner, J. Richey, M.D., 504 Permanent Block, Cleveland, O.
1889—Hoy, H. K., M.D., 1203 Fourteenth Street, Altoona.
1880—Humes, J. R., M.D., Hollidaysburg.
1886—Ingersoll, W. K., M.D., 4008 Chestnut St., Philadelphia.
1892—Irvin, Thomas A., M.D., Franklin.
1882—Ivins, Horace F., M.D., 1621 Chestnut St., Philadelphia.
1866—JAMES, BUSHROD W., M.D., 1719 Green Street, Phila.
1867—JAMES, JOHN E., M.D., 1521 Arch Street, Philadelphia.
1889—Jamison, M. R., M.D., Greensburg.
1892—Jessup, H. I., M.D., 1829 Arch Street, Philadelphia.
1881—Johnson, Theodore M., M.D., 200 Susquehanna Ave., Pittston.
1869—JONES, JOS. E., M.D., 113 S. High St., West Chester.
1892—Karsner, Charles W., M.D., 316 S. 12th St., Philadelphia.
1881—Karsner, Daniel, M.D., 205 Tulpehocken Street, Germantown.
1889—Kase, Edmund H., M.D., 1325 Girard Ave., Philadelphia.
1891—Kaufman, John, M.D., Hazleton.
1896—Keelor, J. G., M.D., 48th and Baltimore Ave., Philadelphia.
1885—Keim, William H., M.D., 1716 N. 18th St., Philadelphia.
1894—Kehler, B. Frank, M.D., 1708 N. 8th Street, Philadelphia.
1884—King, W. D., M.D., 1046 Fifth Avenue, Pittsburg.
1892—Kistler, A. L., M.D., Allentown.
1897—Kistler, D. S., M.D., Wilkesbarre.
1891—Kline, D. C., M.D., 209 S. 5th Street, Reading.
1891—Knauer, J. C., M.D., 233 S. 9th Street, Reading.
1877—Knerr, C. B., M.D., 1137 Spruce Street, Philadelphia.
1872—KORNDŒRFER, AUGUSTUS, Sr., M.D., 1728 Green Street, Philadelphia.
1896—Korndœrfer, Augustus, Jr., M.D., 114 N. 17th St., Phila.
1896—Krusen, Edward A., M.D., Collegeville.
1889—Lange, F. W., M.D., 429 Lackawanna Avenue, Scranton.
1894—Lawrence, F. Mortimer, M.D., 1601 Girard Avenue, Phila.
1888—Layman, Alfred, M.D., 1630 N. 18th Street, Philadelphia.
1889—Lazear, Lyttleton Lyon, M.D., 515 Penn Ave., Pittsburg.
1887—Leake, E. N., M.D., Butler.

1884—Leckie, J. W., M.D., Hazleton.
1884—Lee, Charles H., M.D., New Castle.
1891—Lee, W. H., M.D., New Castle.
1894—Lentz, Levi R., M.D., Fleetwood.
1894—Lichtenwalner, A. B., M.D., 2435 N. 7th St., Philadelphia.
1895—Lindabury, A. A., M.D., Scranton.
1896—Lyle, William Howard, M.D., 1833 Master St., Philadelphia.
1868—MACFARLAN, MALCOLM, M.D., 1805 Chestnut St., Phila.
1893—Macfarlan, Duncan, M.D., 3924 Chestnut St., Philadelphia.
1886—Maddux, D. P., M.D., 700 Madison Street, Chester.
1878—Malin, William H., M.D., 8408 Germantown Avenue, Chestnut Hill, Philadelphia.
1892—Mansfield, Harry K., M.D., 19 W. Chelten Avenue, Germantown, Philadelphia.
1881—Mansfield, J. R., M.D., 4852 Germantown Avenue, Philadelphia.
1891—Marks, William F., M.D., 118 N. 9th Street, Reading.
1885—Marsden, Biddle R., M.D., Chestnut Hill, Philadelphia.
1883—Marshall, Anna M., M.D., 1928 Chestnut St., Philadelphia.
1891—Marshall, R. S., M.D., Cor. Penn and N. Highland Avenues, Pittsburg.
1877—Martin, W. J., M.D., 1712 Carson Street, S. S., Pittsburg.
1878—Maurer, J. M., M.D., Washington.
1888—Mercer, Edward W., M.D., 157 N. 15th St., Philadelphia.
1871—MERCER, ROBERT P., M.D., 223 W. 3d Street, Chester.
1896—Merrell, A. F., M.D., Hallstead.
1888—Messervè, F. W., M.D., 1607 Arch Street, Philadelphia.
1871—MIDDLETON, CALEB S., M.D., 1523 Girard Ave., Phila.
1887—Millen, J. C., M.D.
1887—Miller, Z. T., M.D., 2013 Carson Street, S. S., Pittsburg.
1883—Mitchell, J. N., M.D., 113 S. 16th Street, Philadelphia.
1875—MOHR, CHARLES, M.D., 1823 Green Street, Philadelphia.
1893—Monroe, J. E., M.D., Orange, Mass.
1893—Moon, S. B., M.D., 1314 Eighth Ave., Beaver Falls.
1893—Moreland, George B., M.D., 1321 Fifth Avenue, Pittsburg.
1867—MORGAN, JOHN C., M.D., Millville, N. J.
1891—Mueller, G. A., M.D., Allegheny.
1888—Murdock, Robert, M.D., 160 S. Main Street, Wilkesbarre.
1894—Myers, Charles Elwood, M.D., 170 Green Lane, Manayunk, Philadelphia.
1891—McCauley, J. C., M.D., 128 Connecticut Street, Rochester.
1879—McClelland, J. B., M.D., 409 Penn Avenue, Pittsburg.

1867—McCLELLAND, J. H., M.D., 5th and Wilkins Avenue, Pittsburg.
1884—McClelland, R. W., M.D., 5th and Wilkins Avenue, Pittsburg.
1883—McClure, Eliza H. Lang, M.D., 1919 Wallace St., Philadelphia.
1893—McCracken, William, M.D., 2110 Carson Street, Pittsburg.
1866—NEVILLE, W. H. H., M.D., 1833 Wallace St., Philadelphia.
1893—Northrop, H. L., M.D., 1729 Arch Street, Philadelphia.
1891—Norton, Claude R., M.D., 700 N. 40th St., Philadelphia.
1896—Palmer, Charles R., M.D., West Chester.
1884—Parker, G. W., M.D., 1404 S. 6th Street, Philadelphia.
1883—Parker, T. Elwood, M.D., Woodbury, N. J.
1870—PARSONS, ANSON, M.D., Springboro.
1881—Parsons, E. C., M.D., Meadville.
1897—Paxson, O. H., M.D., 123 N. 16th St., Philadelphia.
1880—Peach, William, M.D., 58 Monterey Street, Allegheny.
1881—Perkins, C. W., M.D., 403 Broad Street, Chester.
1894—Peters, J. Elwood, M.D., Jenkintown.
1883—Pettengill, Eliza F., M.D., 300 N. 10th St., Philadelphia.
1891—Phillips, Joseph R., M.D., 15 E. 8th Street, Erie.
1897—Piper, R. L., M. D., Tyrone.
1880—Pitcairn, Hugh, M.D., 206 State Street, Harrisburg.
1895—Pitcairn, R. C., M.D.
1894—Pollock, Martha H., M.D., 210 Pine Street, Harrisburg.
1891—Pond, Edward H., M.D., 515 Penn Avenue, Pittsburg.
1886—Posey, L. P., M.D., 1435 Walnut Street, Philadelphia.
1896—Powel, Franklin, M.D., Chester.
1883—Powell, W. C., Jr., M.D., Bryn Mawr.
1871—PRATT, TRIMBLE, M.D., Media.
1896—Pursell, James P., M.D., Easton.
1872—RANKIN, J. S., M.D., 827 S. Negley Avenue, Pittsburg.
1897—Raue, C. Sigmund, M.D., 121 N. 10th St., Philadelphia.
1883—Reading, J. H., M.D., 1811 Green Street, Philadelphia.
1886—Reading, L. W., M.D., 1629 Green Street, Philadelphia.
1888—Reading, Thomas, M.D., Hatboro.
1896—Redman, John L., M.D., 1618 Pacific Ave., Atlantic City, N. J.
1886—Reeves, Joseph M., M.D., 1609 Mt. Vernon St., Philadelphia.
1896—Ridge, Jonathan T., M.D., 1617 N. 7th Street, Philadelphia.
1878—Rinehart, C. C., M.D., Center and Aiken Avenues, Pittsburg.
1894—Rinehart, S. M., M.D., 293 Western Avenue, Allegheny.
1891—Rittenhouse, J. S., M.D., 38 S. 4th Street, Reading.
1895—Roberts, C. W., M.D., Scranton.

1880—Robson, J. W., M.D., 350 Winebiddle Avenue, Pittsburg.
1887—Rodes, Joseph, M.D., San Diego, Cal.
1883—Rosseau, L. G., M.D., 118 S. Negley Avenue, Pittsburg.
1892—Rossiter, E. B., M.D., 343 High Street, Pottstown.
1894—Rotzell, W. E., M.D., Narberth.
1888—Sandel, J. H., M.D., 49 Center Avenue, Plymouth.
1872—SARTAIN, HARRIET J., M.D., 212 W. Logan Square, Philadelphia.
1896—Schantz, Henry F., M.D., 30 National Bank B'ld'g, Reading.
1892—Schantz, M. Margaret Hassler, M.D., Reading.
1874—SCHMUCKER, F. R., M.D., 228 N. 5th Street, Reading.
1883—Schreiner, Emma T., M.D., cor. Wayne and Maplewood Avenues, Germantown, Philadelphia.
1889—Schwenk, C. S., M.D., 1319 Jefferson Street, Philadelphia.
1886—Seibert, W. A., M.D., 43 N. 4th Street, Easton.
1868—SEIP, C. P., M.D., 636 Penn Avenue, Pittsburg.
1889—Shallcross, I. G., M.D., 1631 Arch Street, Philadelphia.
1879—Shannon, S. F., M.D., 631 16th Street, Denver, Col.
1883—Sharkey, W. P., M.D., 1938 Girard Ave., Philadelphia.
1888—Sharpless, E. S., M.D., 1329 N. 12th Street, Philadelphia.
1885—Shellenberger, C. N., M.D., 1831 Wallace St., Philadelphia.
1895—Shepherd, Mary A., M.D., Scranton.
1892—Shoemaker, D. W., M.D., 1924 Green St., Philadelphia.
1897—Simmons, S. S., M.D., Susquehanna.
1883—Slough, F. J., M.D., 845 Hamilton Street, Allentown.
1892—Smedley, Charles D., M.D., Wayne.
1880—Smedley, I. G., M.D., 1705 Arch Street, Philadelphia.
1889—Smith, George W., M.D., 806 N. Broad St., Philadelphia.
1887—Smith, Mary E., M.D., 48 E. Diamond Street, Allegheny.
1887—Snader, E. R., M.D., 140 N. 20th Street, Philadelphia.
1894—Somerville, W. H., M.D., 1214 Hanover St., Philadelphia.
1896—Spahr, Charles E., M.D., York.
1889—Spencer, William, M.D., 1617 Chestnut Street, Philadelphia.
1881—Stambach, H. L., M.D., Santa Barbara, Cal.
1889—Starr, Pearl, M.D., Bellevue.
1894—Steele, William G., M.D., 1431 Girard Avenue, Philadelphia.
1891—Stephens, W. R., M.D., Wilkinsburg.
1896—Steudel, Robert, M.D., Phœnixville.
1894—Stewart, G. W., M.D., Oak Lane, Philadelphia.
1885—Strong, J. Wilmer, M.D., 2049 N. 13th St., Philadelphia.
1889—Strong, Walter, M.D., 2049 N. 13th St., Philadelphia.
1896—Sureth, Theodore, M.D., Scranton.

1881—Thatcher, J. W., M.D., 35th and Hamilton Sts., Philadelphia.
1877—Thomas, Charles Monroe, M.D., 1623 Arch St., Philadelphia.
1886—Thompson, J. H., M.D., 515 Penn Avenue, Pittsburg.
1897—Thompson, J. J., M.D., Carbondale.
1887—Thompson, Landreth W., M.D., 1701 Green Street, Phila.
1886—Tindall, Van R., M.D., 323 Reed Street, Philadelphia.
1891—Tomlin, R. E., M.D., 2057 N. 8th Street, Philadelphia.
1896—Tortat, Albin E., M.D., 3727 Ridge Avenue, Philadelphia.
1896—Trites, Charles S., M.D., 4500 Baker St., Manayunk, Phila.
1896—Ulrich, Silvester, M.D., Middletown.
1881—Umstead, D. B., M.D., Tacony, 23d Ward, Philadelphia.
1883—Van Baun, W. W., M.D., 1402 Spruce Street, Philadelphia.
1886—Van Deusen, Edwin H., M.D., 2105 Tioga St., Philadelphia.
1896—Van Lennep, G. A., M.D., 1421 Spruce Street, Philadelphia.
1881—Van Lennep, W. B., M.D., 1421 Spruce St., Philadelphia.
1889—Vischer, Carl V., M.D., 1429 Poplar Street, Philadelphia.
1892—Waggoner, G. W., M.D., Corry.
1897—Walter, J. A., M.D., Punxsutawney.
1896—Walter, Robert, M.D., Walter's Park.
1894—Ward, J. D., M.D., 806 S. 3d Street, Philadelphia.
1894—Ware, H. B., M.D., Scranton.
1881—Wareham, Edward A., M.D., Glen Rock.
1894—Wasserman, Flora E., M.D., 1909 N. Broad St., Philadelphia.
1894—Waylan, Julia Gould, M.D., 1832 Tioga St., Philadelphia.
1881—Weaver, Chandler, M.D., Fox Chase, 23d Ward, Phila.
1894—Weaver, H. S., M.D., 1621 Chestnut Street, Philadelphia.
1883—Weaver, W. P., M.D., Bristol.
1894—Webster, Samuel C., M.D., Media.
1891—Wesner, M. A., M.D., Houtzdale.
1889—White, Roland T., M.D., 53 Jackson Street, Allegheny.
1892—Wilbur, B. K., M.D., Sitka, Alaska.
1866—WILLARD, L. H., M.D., 236 Western Ave., Allegheny.
1866—WILLIAMS, THOMAS C., M.D., 567 N. 5th St., Phila.
1873—WILLIAMSON, M. S., M.D., 1311 Arch St., Philadelphia.
1870—WILLETS, WILLIAM, M.D., Williamsport.
1886—Wilson, C. A., M.D., San Antonio, Texas.
1887—Wolfe, W. W., M.D., 35 N. Diamond Street, Allegheny.
1897—Yetter, A. F., M.D., Moscow.
1888—Yocum, C. A., M.D., 365 Chestnut Street, Pottstown.
1880—Yoder, D., M.D., Catasauqua.
1896—Youngman, Maurice D., M.D., Atlantic City, N. J.
1894—Ziegenfus, A. Frank, M.D., 1124 Wallace St., Philadelphia.

HONORARY MEMBERS.

1883—Allen, H. C., M.D., 5401 Jefferson Street, Hyde Park, Chicago, Ill.
1866—Doran, Charles R., M.D., Jacksonville, Fla.
1868—Helmuth, William Tod, M.D., 158 W. 59th St., New York.
1885—Houghton, Henry C., M.D., 12 W. 39th St., New York.
1876—Jones, S. A., M.D., Ann Arbor, Mich.
1868—Paine, H. M., M.D., West Newton, Mass.
1883—Phillips, W. A., M.D., Cleveland, Ohio.
1868—Rockwith, F. A., M.D., East Saginaw, Mich.
1868—Talbot, I. T., M.D., 66 Marlborough St., Boston, Mass.
1892—Williamson, Alonzo P., M.D., Fergus Falls, Minn.

CORRESPONDING MEMBERS.

1873—Alvarez, Paz, M.D., Madrid, Spain.
1873—Chauvet, Fernand, M.D., Tours, France.
1873—Eidherr, Francis, M.D., Vienna, Austria.
1883—Hughes, Richard, M.D., Brighton, England.
1873—Pope, Alfred C., M.D., London, England.

NECROLOGICAL LIST.

1866—Ashton, A. H., M.D., died February 18th, 1883.
1866—Barnaby, John E., M.D., died January 5th, 1869.
1867—Barrett, Charles B., M.D., died June 5th, 1871.
1882—Bernard, H., M.D., died ———
1866—Blakeley, W. James, M.D., died January 14th, 1877.
1870—Bratt, Benjamin R., M.D., died January 31st, 1872.
1866—Brooks, Silas S., M.D., died July 2d, 1871.
1883—Brown, Samuel, M.D., died March 22d, 1892.
1883—Burr, Richard, M.D., died March 30th, 1885.
1873—Caruthers, R. E., M.D., died January 3d, 1885.
1868—Charlton, S. T., M.D., died November 9th, 1886.
1863—Childs, William R., M.D., died November 11th, 1888.
1866—Cook, William H., M.D., died March 11th, 1879.
1866—Cote, M., M.D., died May 29th, 1878.
1866—Cowley, David, M.D., died October 30th, 1886.
1868—Dake, J. P., M.D. (honorary), died October 28, 1894.
1866—Detweiler, Henry, M.D., died April 21st, 1887.
1886—Dowling, John W., M.D. (honorary), died January 14th, 1892.
1871—Dreibelbis, David L., M.D., died March 24th, 1872.
1870—Earhart, Jacob R., M.D., died June 23d, 1891.
1870—Farrington, E. A., M.D., died December 17th, 1885.
1880—Ferson, John L., M.D., died July 12th, 1896.
1866—Freise, Michael, M.D., died February 4th, 1880.
1866—Frost, J. H. P., M.D., died January 21st, 1875.
1866—Gardiner, Richard, M.D., died March 22d, 1877.
1866—Gause, O. B., M.D., died January 11th, 1895.
1886—Griffith, Jethro J., M.D., died July 5th, 1893.
1877—Grumbeid, William, M.D., died———
1866—Guernsey, H. N., M.D., died June 27th, 1885.
1870—Guernsey, W. F., M.D., died February 16th, 1877.
1895—Hall, William D., M.D., died August 2d, 1897.
1888—Hawley, S. B., M.D., died March 6th, 1890.
1886—Herron, James A., M.D., died November 15th, 1868.
1866—Hofmann, Herman H., M.D., died April 4th, 1891.
1886—Holcombe, John Randolph, M.D., died December 17th, 1896.

1884—Hosfeld, George, M.D., died November 9th, 1884.
1873—Houard, J. G., M.D., died April 24th, 1878.
1866—James, David, M.D., died June 6th, 1873.
1866—Jeanes, Jacob, M.D., died December 18th, 1877.
1866—Koch, Augustus W., M.D., died May 4th, 1886.
1866—Lee, J. K., M.D., died November 10th, 1887.
1869—Lee, John K., M.D., died May 31st, 1889.
1876—Lilienthal, S., M.D. (honorary), died October 3d, 1891.
1867—Lippe, Adolph, M.D., died January 23d, 1888.
1871—Lovejoy, E., M.D. (honorary), died August 15th, 1872.
1868—Malin, George W., M.D., died January 18th, 1883.
1886—Malin, John, M.D., died November 29th, 1889.
1866—Marsden, J. H., M.D., died August 27th, 1883.
1865—Martin, Noah, M.D., died September 1st, 1889.
1881—May, Newton, M.D., died January 27th, 1889.
1866—McClatchey, R. J., M.D., died January 15th, 1883.
1870—Moore, Thomas, M.D., died March 25th, 1882.
1873—Nichol, Thomas, M.D. (corresponding), died June 14th, 1890.
1869—Ostrander, W. M., M.D., died August 23d, 1881.
1868—Payne, Wm. E., M.D. (honorary), died March 9th, 1877.
1878—Pereira, Ignacio, M.D. (corresponding), died April 18th, 1881.
1868—Pfoutz, J. S., M.D., died ———
1866—Preston, Coates, M.D., died August 9th, 1881.
1868—Pulte, J. H., M.D. (honorary), died February 24th, 1884.
1882—Pursel, J. E., M.D., died March 15th, 1885.
1866—Raue, Charles G., M.D., died August 21st, 1896.
1853—Reading, Edward, M.D., died March 7th, 1889.
1866—Reading, John R., M.D., died February 14th, 1866.
1870—Reinhold, H. E., M.D., died March 6th, 1879.
1871—Rittenhouse, S. R., M.D., died June 26, 1895.
1866—Roberts, R. Ross, M.D., died April 4th, 1875.
1866—Rosseau, L. M., M.D., died September 25th, 1882.
1872—Scott, James L., M.D., died August 15th, 1876.
1883—Skeels, James S., M.D., died ——— 1891.
1870—Spencer, J. H., M.D., died ———
1872—Speth, W. F., M.D., died May 11th, 1881.
———Stauffer, D. R., M.D., died March 16th, 1874.
1867—Stevens, C. A., M.D., died January 17th, 1881.
1870—Taudte, F., M.D., died March 27th, 1878.
1871—Thomas, Amos R., M.D., died October 31st, 1895.
1891—Tindall, Harry Brooks, M.D., died January 9th, 1892.
1882—Trites, W. B., M.D., died January 19th, 1890.

1867—Walker, Mahlon M., M.D., died March 31st, 1896.
1870—Waters, George H., M.D., died ——— 1892.
1880—Way, J. H., M.D., died September 3d, 1887.
1866—Williamson, Walter M., M.D., died December 19th, 1870.
1866—Williamson, Walter, M.D., died May 5th, 1874.
1848—Wood, James B., M.D., died April 14th, 1889.
1874—Young, J. H., M.D., died June 21, 1894.
1880—Zerns, Wm. M., M.D., died September 21st, 1887.

MEMBERS AND VISITORS REGISTERED AT THE MEETING.

L. B. Amsbry.
J. Arschagouni.
L. T. Ashcraft.
A. W. Baily.
C. Bartlett.
W. D. Bayley.
J. S. Behm.
B. F. Betts.
H. Bierman.
Col. H. M. Boies.
J. D. Boileau.
F. D. Brewster.
W. H. H. Bull.
G. J. Berlinghof.
G. M. Christine.
Anna C. Clarke.
J. H. Closson.
Sarah J. Coe.
Mary A. Cooke.
J. W. Coolidge.
J. F. Cooper.
W. H. Cooper.
Elizabeth Corwin.
L. E. Davis.
H. E. Dawson.
P. S. Duff.
J. R. Fleming.
Rev. C. M. Giffen, D.D.
I. B. Gilbert.
W. C. Goodno.
Ella D. Goff.
E. M. Gramm.
T. J. Gramm.
J. T. Greenleaf.
J. C. Guernsey.
P. S. Hall.
J. W. Hassler.
Margaret Hassler.
H. F. Heilner.
E. H. Hill.
J. E. James.
T. M. Johnson.
J. E. Jones.
E. H. Kase.
W. H. Keim.
D. S. Kistler.
D. C. Kline.
A. Korndœrfer, Sr.
F. W. Lange.
Park Lewis,
A. A. Lindabury.
W. A. McDowell.
D. P. Maddux.
W. J. Martin.
L. A. Martin.
A. F. Merrell.
Z. T. Miller.
G. B. Moreland.
R. Murdock.
M. L. Munson.
C. M. Neeld.
A. A. Norris.
C. W. Perkins.
E. L. Peet.
R. L. Piper.
J. P. Pursell.
C. S. Raue.
J. H. Reading.
C. W. Roberts.
J. H. Sandel.
H. F. Schantz.
Mary Shepherd.
T. Smith.
E. R. Snader.
E. E. Snyder.
W. G. Steele.
Walter Strong.
T. Sureth.
J. J. Thompson.
W. W. Van Baun.
F. Van Gunten.
G. A. Van Lennep.
C. V. Vischer.
J. A. Walter.
H. B. Ware.
Julia G. Waylan.
H. S. Weaver.
F. A. Whitman.
C. Winters.
Chas. S. Wynnes.

PRESIDENT'S ANNUAL ADDRESS.

Ladies and Gentlemen, Members of the Homœopathic Medical Society of the State of Pennsylvania:

Your executive committee, carrying out your instructions, secured a charter for your Society, which places it upon a legal basis; that means that it can sue and be sued. This status, hitherto, has been enjoyed by you singly, but collectively you have been debarred that sacred privilege.

While referring to the question of privileges at law, I cannot refrain from speaking of the manner in which our law-makers treated us during the last session. The legislative committee will report to you that every measure presented for consideration and enactment by your accredited representatives has been defeated. Saving the appropriations for our institutions, not one bill received the necessary votes to become a law. This leaves the insane asylum unbuilt, the malpractice bill unpassed. When you consider that the first measure failed of approval for the want of public funds, and learn that at the same time large sums were appropriated to the Valley Forge Association for the purchase of additional land (and larger sums went to the legislators themselves in the way of expenses incurred in a manner well known to you), the time to inquire whether the best interests of the State at large are being subserved has come.

What sane man could vote *nay* when a measure calculated to ameliorate the condition of the mentally maimed was submitted? Was it a job that merited condemnation? Was it a measure based upon the selfish aims of men determined to fleece the State for their pecuniary advancement? Neither of these.

Motives humane, methods modern, means that are mild, all form the basis of this demand, and should be demanded until the justice of the State to the individual be secured.

The malpractice bill failed, so it is reported, because one branch of the Legislature sought to slaughter the enactments of the other, for reasons best known to each other. The good and bad alike fell under the guillotine of that imbecility. A bill that was just, if a bill was ever just—a bill that made persecution and blackmail without moral and pecuniary responsibility impossible—was defeated; not because it failed to conform to the ethics of equity, but because two petulant children were mad at each other. What the individual or State at large has to expect from such a law-making source I leave to the construction of your fertile imagination. The measures must be presented again, and a committee appointed whose sole business it shall be to secure their passage, the expenses of said committee to be provided from the treasury of this body. This is recommended as the most equitable and sure manner of meeting that expense. Voluntary contributions, your committee will tell you, have been abortive, not to be relied upon; besides, it fastens the expense upon a few when the many are equally benefited, which is not right. I hope you will give the strictest and most thorough consideration to the malpractice bill so that you may appreciate the necessity for its enactment, and, being thus convinced, leave no effort unspared to push it through.

Our friends of the so-called regular school have been paying some attention to methods of executing criminals. Whether this belongs to the prerogatives of medical societies I shall not judge. Should you consider it within the bounds of your duty to take up the subject, I am convinced you could conceive of a better method than that in vogue in our State at present.

It has been my privilege to witness various ways of putting a stop to human existence. I have seen one man commit suicide, one hung, one shot, two electrocuted. Of all the modes, hanging impressed me as being the most objectionable; it is certainly the most bungling and long-drawn-out death that one can have inflicted. Asphyxiation is being advocated as a substitute for hanging. While I am unalterably opposed to capital punishment, it seems to me that you could well lend the weight of your influence to aid in the necessary steps to make asphyxiation the common rule for ridding the community of poor, unimaginative creatures who commit murder.

M. Bertinot, of Paris, who has made a special study of the best method of executing criminals, has pronounced in favor of a lethal chamber with ordinary coal-gas.

My objection to the infliction of capital punishment may be stated thus: A dead bad man is of no use to anybody—autopsies on such are negative. A live bad man may be made of much use to many, and an autopsy, when I would get through with him, might reveal the very facts homœopathic doctors are wanting.

Since Dr. Dake died, little has been said or written about provings. His "provers' college" never materialized, and has not been approached save by a few painstaking physicians in Philadelphia, who have undertaken to make provings with all the investigating facilities at their command. We hope for much from these gentlemen.

The great obstacle in the way of ascertaining drug effects upon the human individual is the reluctance a healthy man has to becoming a wreck, physically, even for the sake of humanity. Now, just here is where my living bad man steps in to a purpose.

One of the men, Young Haas, whom I saw electrocuted, presented an appearance of perfect health as he sat down in the electric chair. The prison régime had made him an excellent specimen of the genus, rendering him eminently fit for the purposes of drug experimentation. With such a man the limit of experiment need not be placed, the provings being pushed as rapidly and as far as necessary to obtain an absolute, unmistakable pathogenesis. Only the healthy condemned would be available for such use. I recognize in this source the material for which we have long sought; also the utilization of men, otherwise unfit for the office of citizenship, to verify and set at rest forever the question of authenticity of our materia medica.

The law should compel men who would otherwise be put to death to submit themselves to the processes of drug proving. They would willingly submit to the alternative, I think. I shall not dwell upon the modus operandi of the provings so made, but suggest that for our purposes the live bad man could be made much more useful, if not more ornamental, to society

than dangling at the end of a rope or squirming in an electric chair.

I think Mr. Haas would have yielded perfect co-operation in a thorough proving; and yet I would not rob even a condemned man of the privilege of chosing between death and a test.

Another matter concerning you, particularly you who live in cities, where pharmacies do business, is the growing habit of pharmacists prescribing over the counter for any and all who ask it. Some complaints have been made, and you may now have an opportunity to express your opinion as a body.

Free dispensaries connected with colleges and hospitals will sooner or later be brought to your notice by the growing abuses that seem to be attendant upon them at present.

With our college classes ever increasing in numbers, and the ever-increasing facilities for procuring medical aid free of charge keeping in advance, it is plain that the reaction of one against the other is bound to come. Young graduates cannot be turned loose upon pastures pre-empted by the hospital and dispensary and expected to grow fat. Particularly is this so since the growing number of candidates is yearly increasing, thus making the lines of competition closer and the struggle greater. Even the *smaller* cities and towns are being invaded by these free-for-all medical aids, thus extending the domain of territory where the grass is short. Young men encouraged to enter the field of medicine have a right to be protected against this staking of claims before they enter the field.

We view with the utmost satisfaction the young material that is coming on to take the place of that which is exhausted. Time plays havoc even with the qualifications of men. Old machines must be replaced by new, and this fact makes us grateful that, though individuals among us decay, buoyant blood forges to the front to fill the gaps. Our young surgeons are everywhere a credit to us; our specialists rank with those of any other school; our therapeutists wield that branch of the art without their equals. These young men are the cream of that youth destined to make medical history and write upon the pages of the passing record the attainments born of brain and brawn.

The facilities afforded the young surgeons in our hospitals are fast making an European sojourn a thing unnecessary. Upon the contrary, there is no doubt but that the flux will soon be toward instead of from America. That is saying a good deal, but I say it, and expect to live to see the day when the prophesy materializes.

Ambition is an American trait, and the masses educated beyond the prejudice to hospitals will throw the material into the hands of our coming men in quantities sufficient not only to enable them to speak from experience, but to formulate new methods and means, thus constituting them authorities upon surgical technique. It is to be hoped that future surgery will not be hedged round by the multifarious antiseptic methods that have prevailed hitherto.

Asepsis! Yes, yes, because it harmonizes with that more than secondary adjunct to surgical procedure, materia medica. We owe it to the advancement and enhancement of Hahnemann's art not to depart an inch from the principles he adjusted to the care of the sick; and, despite all the theories of germ cause, etc., every one of you will attest that the homœopathic remedies, with cleanliness and care, are sufficient.

The engrafting upon our operative course the malodorous destroyers of an enemy whose existence is largely if not entirely imaginative has wrought more damage to the school's distinctive title than the departure from the strict observance of the rules of therapeutic application. This should not be. The pride of every one should be to uphold in practice that which has given us the prestige over all our competitors in the healing compass; not because we selfishly stick to form for form's sake, but because the simplest efficiency is the best efficiency. The astonishing profundity and nauseating volubility with which the thousand-and-one *latest* and *best* germ-destroyers are brought to your notice but emphasize what I have said with regard to the necessity for ignoring all of them in favor of pure water and pure homœopathy. The best has been turned down as fast as a new candidate could be formulated, the same firm having a number of times perpetrated that superlative, the same to be followed by a more superlative; a physical as well as a grammatical absurdity.

The materia medica is a fertile field that needs but cultivation to yield what you want; if every one of you would tickle that surface, how long would it be before your therapeutic resources reached the magnificent proportions of perfection? I cannot conceive of anything so entirely worthy of your unceasing effort.

This special appeal is made to surgeons because they, with the specialists in other operative lines, depend too little upon that great, reliable storehouse of help, the Homœopathic Materia Medica.

It must be remembered, however, that there is a right way and a wrong way to get and apply that help.

A student of medicine once said to me that it was very perplexing to a beginner who heard physicians of experience discuss the remedy for a case, seeing that frequently they did not agree as to what the remedy was. I explained that the fault was not with the remedy or the system, but with the method of arriving at conclusions. The short-cut, hit-or-miss manner does not conduce to harmony or oneness of conclusion, but we do know that the totality of symptoms compared after the manner of Hahnemann leaves no room for dissension. When all doctors do that, medical students will not exclaim at the uncertainty of doctors' opinions.

In art, no one excels who does not observe every point of perspective, every value of tone, every line of the object. Some painters paint without exercising this utmost care, but they do not paint right. A musician makes but noise who fails to appreciate the well-authenticated rules of composition —harmony, counterpart, and thorough-bass. He composes, but how does he compose?

The half-way painter, the half-way musician may be excused, but the half-way doctor, never! An inefficient play upon the senses of sight or hearing leaves no such havoc as an inefficient play upon the ills of man; the one deals with human pleasure, the other with human life. Our materia medica, searched in the manner in which Hahnemann prescribed, will pay you better than a Klondike claim minus the *frosts* attending the digging.

As a body of physicians we have undertaken to discharge some meed of our obligation to Hahnemann by placing before the world the tangible expression of our acknowledgment of his leadership. Without wasting words of eulogy—which, by the way, do not build monuments—I come at once to the fact that the committee having that project in charge has not, thus far, secured the necessary money to purchase the symbol of that leadership, now that money must be raised, and could be raised here in the State of Pennsylvania, if we worked as hard as we do to get to the ticket-office of the circus, opera, or base-ball grounds.

In the presence of this rendering to a Cæsar that which belongs to him all other projects should stand in abeyance, and every dollar that can be spared turned into the fund. Physicians have many demands upon their incomes, making it a hardship to have others added; but when the cause for which this demand is made is considered, any seeming urgency is excusable. Any sacrifice made enhances the value of the gift and lends the lustre of eternal gratitude to the pile erected. The completion and placing of that monument means much to every one of you, and not the least of that much is the acknowledgment to mankind everywhere that in it you give expression to a continued confidence in the method and means therein symbolized.

It means that the school has not receded from the position taken by Hahnemann; that its proportions are no nearer a reproduction of the man than *similia* is the lineaments of all truth. We, as physicians, cannot afford to allow this undertaking to lag. We must contribute the sum of our might. We must present to the laity the privilege of offering their contribution of appreciation to the world's greatest medical benefactor. If the committee in charge has formulated any plan by which additional money may be secured, see to it that the plan is carried out. Work for this fund; you will never regret it.

I would consider that I was careless of the interests of my constituency if I did not call your attention to the compulsory vaccination laws now on the statute-book of this State. As an individual and representative of a class growing every day I

appeal to your sense of justice, and from that sense to an act of common right, to place yourselves on record as opposed to that unqualified outrage. You recognize that you would have the same right to demand of the State that its citizens should be compelled to patronize homœopathy, seeing that it is superior to any other healing method, and thereby save the citizens' lives. Neither you nor the State would tolerate for a moment such an arbitrary enactment. Yet do you tolerate, and some of you encourage, the very same criminality, with a penalty attached that is contrary to all constitutional law. Children are deprived of the privilege of State education, not because they have committed an overt act against the State, but because they run one chance in 100,000 of contracting contagious disease. How unjust! How shamefully barbarous! How un-American that is! Of all the tyrannical rules for the government of citizenship borrowed from the old world, not one is so steeped in the misery of debauchery as that. Whatever adverse action you may be impelled to take, you can feel encouraged by the fact that several States in the West have declared the compulsory vaccination law unconstitutional. I beg of you, then, to give this question your careful consideration. Even if you favor vaccination individually, let that keen sense of love of liberty guide you to grant to the conscientiously opposed the liberty of their convictions. Is that asking too much?

And now, ladies and gentlemen, we are gathered in executive session. The time is limited, and that limit demands that we shape our proceedings so that nothing but the cream is agitated. We want the fat of experience. We want the perfect fruit of your harvest. We want the new varieties—we want anything that will enable us to be more intelligent doctors for the next year. We must get this, or we fail of the object for which these meetings are called. To get it rests entirely with yourselves. If you come loaded till your keel catches the bottom with dissertations and indications that we have pored over in books time and again before coming, you fail of the purpose of your coming. If you come neither loaded nor willing to help load, you toil not, neither do you spin, and again fail to appreciate the fact that the least particle added may

make a perfect whole. The structure of homœopathy should receive a substantial layer of actual fact every time this Society adjourns. Our transactions in a great measure embody the material of that substantial layer, but I fear the "fact-layer" is embedded in layers of mortar so thick that we fail to look for it.

How can you remedy this?

The printing of papers before meetings, as has been suggested by my most worthy predecessor, will permit of more lengthy discussion, I admit. But it does not conduce to the sifting method so apparently essential to come-at-able-ness in print. Is it not true that papers should be so concise and truthful as to be beyond discussion? Could not the material and discussion be referred to a committee on revision, and such matters as in their judgment are worthy of printer's ink be perpetuated in type, the balance returned to the authors? I simply offer this as a suggestion, hoping that in the strength of your united council a solution of this question may be reached.

With your assistance an effort will be made to facilitate the business of the meetings so that the program will be carried out as printed. I desire that all important motions and amendments thereto be submitted in writing. This will enable our secretary to keep an accurate record of the proceedings.

I thank you for the honor you have conferred upon me.

PAPERS

AND

DISCUSSIONS.

REPORT OF THE SECTION OF PATHOLOGY AND PATHOLOGICAL ANATOMY.

Serum-Therapy, by P. Sharples Hall, M.D.
The Homœopathic Treatment of Burns and Scalds, by Joseph C. Guernsey, M.D.
Three Cases, by W. K. Ingersoll, M.D.
Auto infection as a Factor of Disease, by J. W. Coolidge, M.D.
The Pathology of Stricture of the Male Urethra, by Carl V. Vischer, M.D.
Two Cases of Congestive Chills, by J. P. Birch, M.D.

SERUM-THERAPY.

P. SHARPLES HALL, M.D., PHILADELPHIA.

In presenting to you the following case, a cure unfortunately cannot be recorded, the desire being to place the case on record, and from it, if possible, draw conclusions which, in the future, may lead to relief and cure of these unfortunate subjects.

The case in question is one of sarcoma of the neck. The treatment used—inoculation with the toxine of erysipelas and prodigiosus. A good deal has been written upon this subject, both in this country and in Europe; but the most extensive articles are those by Dr. W. B. Coley, of New York, owing to whose untiring efforts and researches more than one case is to-day not only alive but well, while many others have received relief and passed their latter days in comparative comfort.

In 1884 Dr. Coley was treating a case in the hospital wards who was suffering with a sarcoma of the neck very similar to the case here reported, and, like it, operation had been refused as impossible, owing to the situation of the growth and tissues involved. While the case was under treatment, an attack of erysipelas occurred in the tumor. Soon it was noticed that the size of the growth began to diminish; the erysipelas was

watched, but allowed to continue. Upon its disappearance, the growth was reduced about one-half. A few days later a more severe attack of erysipelas occurred, which, for a time, threatened the life of the patient. With the second attack the tumor rapidly diminished, and finally disappeared. Seven years later (1891) the man was well, with no recurrence, an extensive scar only remaining. Noting at the time the apparent curative effect of erysipelas on the tumor, Dr. Coley decided to try the action of erysipelas artificially. Here he found it difficult, often impossible, to produce erysipelas, even with virulent cultures, and also difficult to control it when once the disease was started.

The first serum was prepared by taking a bouillon culture from a fatal case of erysipelas, after ten days, sterilized by heating to a temperature of 100° C. The resulting symptoms and reaction were almost the same as from living cultures, but less severe and shorter in duration. In order to improve the serum, and, if possible, make it more effective and safer, the soluble products were tried, procured by passing living bouillon cultures through a Kelasato filter. The use of the filtrate gave a reaction similar to the sterilized culture, but less severe and persistent. The results from this serum not being satisfactory, a third was prepared by adding to the erysipelas streptococcus the bacillus prodigiosus; bouillon cultures of erysipelas were allowed to grow for ten days. Then was added the prodigiosus toxine, and the two were allowed to grow for ten days longer. The resulting culture was then heated to 58°–60° C. for one hour, to render sterile, but not filtered. In order to keep the resulting serum, a few thymol crystals were added. This latter serum is the one Dr. Coley has used for several years, and was the serum used by us in the case here reported. It was procured direct, through the kindness of Dr. Coley.

The case in question was admitted to the Hahnemann Hospital, under the care of Dr. W. B. Van Lennep, January 29, 1897, suffering from a rapidly growing tumor of the neck. The history, as taken from the hospital record, is as follows:

B. F. L., married, French, æt. 44. Family history negative. Personal history, always enjoyed good health until present illness. History of present illness: About six months before

admission, noticed small swelling at angle of left jaw; it has increased gradually in size, until now it measures 2½ by 3 inches in diameter. Apex is red and discharges small amount of pus; very sensitive over entire growth. Pain almost constant. Throat sore, causing difficulty in talking and swallowing. Tongue coated white. Left chest sensitive to percussion. Patient fairly well nourished. Pulse, 88; temperature, 99.6°. Respiration, 18. Taken to dispensary on February 3d, and examined in throat department by Dr. H. S. Weaver, who returned the following report:

"Apparent involvement of pharynx shown by an ulcer just back of left tonsil, and probably some thickening of left arytenoid cartilage.

"On February 6th the patient was examined under ether by Dr. Van Lennep, and a small portion of the growth removed for microscopical study. It presented a large, fixed, rather hard tumor on the left side of the neck, involving the greater part of that side of the neck, of brawny color, beginning to ulcerate at its most prominent portion. Evidently the large bloodvessels were implicated; besides, the growth was found to have spread to the tonsil and to the left side of the pharynx. Operation was, therefore, deemed impossible."

A small piece was removed and sent to the pathological laboratory, from which is the following: "Tumor composed principally of small round cells containing distinct nuclei; stroma delicate and scanty; bloodvessels numerous, thin-walled; in many cases walls composed only of tumor-cells; considerable free blood in the tissue. *Diagnosis:* Small, round-celled sarcoma."

The examination of the urine throughout was negative.

The case being inoperable, it was decided to use the serum treatment, although the subject was considered hopeless. Through the kindness of Dr. W. B. Van Lennep, the case was transferred to the medical ward and placed under my care. The first inoculation of serum was given March 1st, at which time the tumor had increased in size until it measured about five inches in diameter. It projected beyond the line of head, displacing the ear upwards and outwards. Upon the apex

were three ulcers about the size of a five-cent piece. These were discharging a dirty, thick, yellowish pus, which covered the bases of the ulcers. The tumor was very sensitive, pain almost constant. The condition of the throat was such that swallowing even of liquids was almost impossible. Nutrient enemata were ordered in addition to food taken by mouth. The pulse and temperature had gradually increased, the temperature varying from 98.4°–99.6° in the morning to 100°–101° in the evening, and twice had reached 102°. Pulse from 80 to 120. The patient was cachectic and markedly emaciated. Morph. sulph. or sulphonal had been given nightly, so that he might sleep. This was continued throughout treatment.

On March 1st, at 4 P.M., the first inoculation was given, consisting of ♏. ss. of serum injected directly into the body of the tumor. This caused excruciating pain. At 4.30 P.M. patient complained of a chill, lasting ten minutes, followed by free perspiration; felt tired, and complained of considerable pain. Temperature, 103.8°; pulse, 110. Refused food. Sleep was broken. On March 2d the second injection was given, consisting of ♏. ss.; this was much less painful; the tumor seemed softer; the pus covering ulcers had entirely disappeared; the three ulcers had merged into one. There was considerable discharge of a straw-colored serum. There was no chill following this treatment. Temperature, 102.6°; pulse, 104. Patient took some nourishment and had a better night. The third injection was given at 4 P.M. on March 3d; also ♏. ss. As on the day before, there was no chill. Temperature, 101.6°; pulse, 106. The patient took almost the same amount of nourishment, but slept fairly well all night. As there was no decided reaction following after the first inoculation on March 4th at 4.30 P.M., the injection was increased to ♏. j. at 5.30 P.M.; a severe chill, followed by free perspiration. Temperature, 105° in axilla; pulse not taken. Patient refused his supper, but passed a fairly comfortable night. The tumor had by this time become quite soft and discharged freely a yellowish serum, but no pus. The decrease in size of tumor was noticeable. On March 5th patient was very hungry, but owing to difficulty in swallowing he took very little food. At 4.20 P.M.

another inoculation, consisting of ♏. j., was given. One hour later he complained of a severe chill, lasting twenty minutes, and followed by free perspiration. Temperature, 103°; pulse, 110. Patient slept very little during the night.

On March 6th the dose was increased to ♏. ij.; one hour later a chill, lasting twenty minutes, occurred, followed by free perspiration. Temperature, 102.4°; pulse, 126. At 3 A.M. the dressing was saturated with blood; complained of feeling chilly. Temperature, 95.6°; pulse, 80; the temperature gradually rising to 97.6° by 7 A.M.; pulse, 102. Under these circumstances no inoculation was given on the 7th. Patient about the same. Highest temperature, 100.6°. On March 8th the amount of serum was increased to ♏. vi., without any reaction. Highest temperature during the day, 100°. Slept well. Could take but little nourishment on account of difficulty in swallowing. The tumor had decreased one-half in size, ulcerating over entire surface; discharge of serum very profuse, necessitating several changes of dressing daily. Very soft and small pieces were removed with dressings.

On March 9th the dose was again increased to cc. ss. Still no reaction. Temperature, 100.6°; pulse, 100. Took more nourishment. Slept only in short naps. No injection was given on the 10th; amount of nourishment about the same. The highest temperature was 101°; pulse, 100. On the 11th another injection of cc. ss. was given; no chill followed. Temperature, 101.8°; pulse, 100. Appetite much better; slept soundly until 4.30 A.M. without any narcotic. The injection was increased to ♏. x. on the 12th; this was followed by a slight chill, with free perspiration. Temperature, 102°; pulse, 120. Slept very little, but appetite good. Tumor sloughing rapidly; only slightly raised above the surrounding surface.

The patient was taken into the clinic on the 13th and ♏. xii. were injected. In removing the dressing two large pieces of tumor came away with the dressing. The patient said he could swallow better; less pain and slept better. No chill followed this, the largest dose given. Highest temperature, 100°; pulse, 106. Slept very little. Following this large dose there

was some depression, so inoculations were discontinued until the 16th, the highest temperature being 100°; pulse, 96.

On the 16th the last inoculation was given, consisting of ♏. x. One hour later there was a severe chill, lasting ten minutes, followed by free perspiration, temperature only rising to 101°; pulse, 100. Sleep was sound until 4 A.M. From now on patient sank rapidly, swallowing became impossible, and patient refused nutrient enemata. Gradually became weaker, and died on the 22d.

Report from autopsy (March 23d) is as follows:

Patient very much emaciated. A small swelling over sternum at junction of third rib on right side; an ulcerating mass on neck, left side, measuring four inches in diameter, the tissue being soft and easily removed with the hand, exposing the larynx and opening into the œsophagus, the upper third of which was entirely destroyed. In the centre of the mass in the neck was a piece of tissue about the size of a hen's egg, which was moderately firm. The large vessels, nerves and muscles in the region of the growth in the neck were entirely destroyed. Upon opening the thorax a mass, degenerated like the one on the neck, was found at the junction of the second and third costal cartilage and sternum, the cartilage and part of sternum being destroyed. The left lung was consolidated—secondary pneumonia—and studded with metastatic tumors, most of which were broken down. In the larynx there was a tumor, almost completely filling the passage and resting upon the vocal chords, freely movable, attached to the left vocal chord, posteriorly, by a small pedicle. This tumor was firm, white, oval, and conformed to the shape of the cavity of the larynx. The œsophagus in the upper third was degenerated and could not be removed, except in a degenerated mass. The remaining organs of the body, with the exception of the entire absence of adipose tissue and being very anæmic, were apparently normal.

Diagnosis.—Death from exhaustion, following sarcoma of neck, with metastatic growth in larynx, left lung, costal cartilages of right side, second and third ribs. Taking into consideration the rapidity of the growth and the weak condition of the patient at the time the treatment was begun, it will be

seen that the case was practically hopeless. We tried inoculations simply as an experiment, and the results were such as I believe will recommend it in the future, not after the disease becomes generalized, as in this case, but early. The knife at the best is only temporary relief, while the use of the serum, as records show, has resulted in permanent cures. In the case under discussion, the serum certainly had decided action. The tumor on the neck softened, broke down, and practically sloughed away. Had this been the only growth, I firmly believe the case would have been cured. Even in the metastatic tumors, with the exception of tumors in the larynx, the disintegration of the tumor cells was unquestionably due to the action of the serum.

The best results obtained have been in cases of spindle-celled sarcoma, although all varieties of sarcoma, and also of carcinoma, have been treated with more or less success. The action of the serum on the cells of the tumors was characteristic and decided. All the tissues removed, with the exception of the larynx, have been examined microscopically. The larynx was removed entire, and given, uncut, to Dr. R. B. Weaver, for the museum. The appearance, under the microscope, of the several tumors was practically the same. Near the centre, where the tissue was firm, was a small, round-celled sarcoma. As sections were cut nearer the periphery, first the protoplasm of cells began to show degenerative changes, the nuclei being set free in the tissue. Later, these, with stroma, degenerated, leaving a mass of tissue without structure.

I have photographs of the tumor after the first inoculation was given, but I regret to say none were taken after death.

DISCUSSION.

Dr. Augustus Korndœrfer: I have been so fully satisfied with homœopathic applications in these cases that I have never employed any other treatment. The greatest fault with our practice is that we do not look enough to the accurate application of homœopathically-indicated remedies.

Dr. Christine: I think this whole subject is in a formative

state, but it certainly does promise a great deal. Many reports have been presented to us, in surgery, of cures of these inoperable cases by the use of serum, and enough have been received to establish the belief that those very unfortunate cases which cannot be operated upon without death of the patient may at least be alleviated, if not cured. While the result of this treatment was unfortunate, the patient having died, yet evidently, judging from what was told in the paper, there was such disintegration of the sarcomatous elements as to justify the belief that if the patient's strength could have been maintained, and the growth had not invaded the larynx and other important tissues, thus causing depletion of the system, and finally death, he might have been cured.

Dr. Guernsey: Would you include antitoxin under this subject?

Dr. Miller: We can perfectly well hear anything on the subject of antitoxin.

Dr. Guernsey: I only want to say that I suppose I believe in homœopathy about as strongly as brother Korndœrfer, and I have seen admirable results in simple diphtheria treated strictly homœopathically. I have seen patients cured by it, by high potencies and single remedies, and I have seen some die with it; and I have seen such happy results from the use of antitoxin that it is a question in my mind whether it is not our duty to use antitoxin in every case of diphtheria.

Dr. Korndœrfer: I do not wish to cause any unpleasant feeling in the Society in reference to the use of antitoxin or serums. When I made my remarks I had in mind my ignorance in reference to the subject more than any condemnation of a physician who would choose to experiment in that line. So far as the experiments are concerned that I have read about, both in regard to diphtheritic antitoxin and other methods of serum-therapy, I have not seen from statistics anything that has surpassed the correct application of the homœopathic remedy ordinarily applied. If, however, we have in this another remedy, it must be because it is homœopathic. The only method by which we can get at its correct application is to make the provings upon the healthy, so that we may know

under what conditions we may employ that remedy with the likelihood of success in the treatment of a given case, and not experiment simply for the amusement of the physician and the possible good of the patient, but scientifically, for the purpose of the actual good of the patient, and consequently for the experience of the physician.

With regard to the remarks of my good friend, who said if only that patient had had strength the tumor might have been cured, it struck me as being a very lame excuse for serum-therapy of any kind, because if every cancer case began to slough it would all slough out, if it did not keep on forever. That has been my trouble with cancer cases. It was just that little increased growth that kept on involving more and more of the surrounding tissues. And the patient died of what? Exhaustion, want of breath, or anything else; but he died of cancer, according to the certificate.

What we want to get at with regard to serum-therapy is the line of homœopathicity that it possesses; if it possesses such a line against any form of disease, in Heaven's name use it! I have made a number of experiments in my time. I do not come before you as a stiff, stilted homœopathist who cannot think of anything outside of the law of similars. I was taught by Hahnemann, through his writings and his early disciples, and I did not find that kind of opposition to investigation, if the investigation was based upon a line of scientific correctness. You did not find our own old homœopathists opposed to it. And I want it to be distinctly understood that I, as a homœopathic doctor, do object to experiments that deny the law of cure. These experiments are not based on a generic law in any way. Only within the last year I have been making experiments with hypodermic medication in the treatment of disease. For a year past I have been treating consumption hypodermically, after proof that the method had a very high reputation in the hands of some. But what was the result? I have written certificates in each case I have applied it. The only change is that the treatment was of service in palliating certain conditions that were not palliated under the homœopathic application of the drug by ordinary administration by

the mouth. From past experience we know that, with all remedies at hand, they would necessarily have resulted fatally.

I do not wish to be misunderstood in this matter, but I do want to see us placed on a sure foundation and our law developed.

Dr. Van Baun: It seems to me wise for us to come to the grounds that Dr. Korndœrfer has taken, and that the real scientific way of approaching the question is by taking a critical position, neither being an enthusiastic advocate nor an ardent opponent of anything.

Personally, I have never seen a case of sarcoma get well on homœopathic treatment. I have heard the statement from a gentleman here to-day that diphtheria was cured by the administration of high potencies. That, I suppose, is a statement of belief rather than a statement of fact. He may have applied the high potency of a remedy and the diphtheria case got well. I do not doubt that he has applied a high potency and the case has died. We may meet with the same occurrences in the application of antitoxin. We may apply it in some cases and they die, and in other cases they get well. I have given cases in my own practice sac. lac. on the expectant plan; some have died and some have gotten well. The doctor has recited a case of marked sarcoma, with two or three intercurrent attacks of erysipelas of great severity, in which the case got well. I remember a case in which the remedial effects were something surprising. Now, in the present case it is the simple reporting of a trial of serum-therapy in a case that was so far advanced as to be given up for every other method of treatment, and the doctor is uncertain that his method of treatment was a help to it. He believes that serum-therapy was a degree of help, and that is worthy of a certain amount of consideration. When he gives us positive knowledge we will have something definite. I think he should be greatly commended for the efforts he has made in this line, and this case should go on record, and I trust that there will be more opportunity of adding to it, for I know all cases thus far advanced have never received any effects from homœopathic drugs.

Dr. Korndœrfer: In reference to the application of drugs

in an advanced state of any sarcomatous condition of the uterus, I have seen very excellent results from the application of homœopathic remedies, and if the case was not cured, there was a certain marked benefit as the result. In one case that comes to my mind now, which was very carefully and critically examined by a physician in whom we have every confidence, he felt quite sure, from all the indications and from the appearance of the patient, that it was cancer. The patient has recovered entirely under the administration of homœopathic remedies only, and the opinion at that time was that nothing could be done but an operation; there might be some hope by removing the uterus. The patient is enjoying life and health most excellently, and has been for two years past. The application of the homœopathic remedy *secale* (3 and 6) brought about the results.

Dr. E. H. Kase: In Dr. Hall's investigation of serum-therapy, and particularly in view of the unsatisfactory results of such a case and diphtheria, he brought out in his paper one point that I think is worthy of consideration, and that is, the early treatment of such cases by any methods we pursue.

When we consider the unsatisfactory results of the use of homœopathic remedies in cancer, I think we are justified in taking up any new therapeutic method, and in introducing the serum-therapy, or any other which promises to bring about an amelioration or possibly a cure of such unsatisfactory cases, he should be commended and aided as much as possible.

While I am not an advocate of antitoxin, I am a learner and an investigator in that particular line, and I think that the results are more successful where antitoxin is used early. I believe that is the testimony of all serum therapeutists in the use of their remedies on that line as soon as diagnosis is made.

Dr. Hall: In closing, I will say that all these serums are practically in their infancy. We are getting new serums all the time; but, as a rule, physicians leave the case until it is practically hopeless; when they have tried everything else, then they will try the serum. Really, the antitoxin is the only one that is uniformly tried until the case is given up. The same in septic conditions with antistreptococcus; they will wait until

the temperature goes up to $103\frac{4}{5}°$, until the case is hopeless, and then give two or three inoculations of serum. This man was undoubtedly septic, running a typical septic temperature. For a few days his temperature did not go above 99°; but then it rose again, and the autopsy showed from the condition that he must have been septic; he was surely hopeless.

I do not believe in rushing into every case of sarcoma that you see, and trying to start erysipelas. If a case could be taken instantly I think the results would be better; but if you inoculate with erysipelas serum, taken from a bad or fatal case, you may not be able to control the erysipelas; that is the reason the serums are used. If we could treat the disease and prove the serum homœopathically, I think it would be a great help, but I do not believe anybody would be willing to experiment on himself.

THE HOMŒOPATHIC TREATMENT OF BURNS AND SCALDS.

JOSEPH C. GUERNSEY, A.M., M.D., PHILADELPHIA.

The March (1897) number of the *Hahnemannian Monthly* contains a most excellent article on the "Picric Acid and Aristol Treatment of Burns."

Viewed from a surgical standpoint, the information given seems quite complete for the general practitioner. Burns are of such common occurrence that all obtainable practical knowledge of their treatment must be acceptable to the profession. But while surgical treatment of burns is a *sine qua non*, their therapeutics require careful study and application. To this end I desire to call attention to a valuable article by the late Dr. Lippe, published in the *Philadelphia Journal of Homœopathy*, vol. xi., p. 17, which is substantially as follows:

"Every individual case of burn requires its own treatment according to our law of cure (*similia similibus curantur*), and thus any remedy in the materia medica may be required in any given case of burn or scald, according to the symptoms.

"The following conditions are those most frequently found in general practice.

"Burns and scalds are caused when our bodies come in contact with fire, steam, heated substances, mineral acids, alkalies, or some of the metallic salts and oxides; and the degree of the ensuing inflammation depends, *a*, on the degree of heat; *b*, on the time (*i.e.*, duration) of contact; and, *c*, on the tenderness of the parts involved.

"We will confine ourselves to four degrees.

"1. Burns or scalds of the first degree are caused by steam or from the contact of more or less hot substances. They produce a deep, not circumscribed, redness of the skin without swelling, which vanishes when pressed upon by the fingers. The skin peels off in a few days. Ars., bell., euphorb., hamamelis, rhus tox., tereb. correspond with that condition of the skin. Hamamelis is the most efficacious remedy; the distilled preparation, externally applied, will reduce the pain immediately.

"2. *The second degree*, mostly caused by heated fluids, produces, either immediately or gradually, larger or smaller blisters filled with yellow or transparent fluid. The redness and swelling of the skin are more intense than in the first degree, pain is more severe—burning—and is usually accompanied by fever. In course of time the vesicles dry up, the fluid becomes absorbed, and the epidermis is thrown off. If they burst or are opened, and the fluid emptied, the blister sinks in and dries up, a new epidermis is formed, or the place suppurates. No remedy corresponds closer to this condition than cantharides, which, if applied early enough, will prevent the blisters from forming to any extent. If they have formed, the tincture of cantharides applied externally will soon relieve the pain. Urtica urens, creasote, causticum, come next in value to cantharides. If ulcers have formed, ars., carb. veg., cycl., lach., must be considered.

"3. *The third degree*, caused by the flames of fire or by longer contact of the body with hot substances, especially hot fluids, is characterized by gray, yellowish or brown spots, which are thin and soft, painless when slightly touched, but painful when more severely pressed upon. Blisters appear filled with

a brownish or bloody fluid; the adjoining parts are red and much swollen. This condition corresponds with the symptoms of ars., canth., cycl., creas. Weak creasote-water applied by wet linen cloths will generally soon allay the violent pain, or a weak caustic solution can also be used.

"4. *The fourth degree*, caused by long contact with fire, red-hot or melted metals, boiling fluids, etc., involves the destruction of the whole thickness of the skin and the cellular texture, or may even burn through the muscles to the bones, or may burn a part of the body to a coal. If there be intense burning pain in the injured part, whether ulcerated or not, arsenicum is the remedy. If the ulcers bleed, give carbo veg.; if the ulcers become gangrenous, give secale corn., caust., cycl., lach. If the burn is caused by phosphorus, sweet-oil is the best remedy."

Pathological Conditions Following Burns and Scalds.

Cases of severe burns always produce correspondingly severe constitutional disturbance, which usually manifests itself by a severe congestion of some part of the body, as of the brain, with more or less serous effusion. In like manner the lungs, or the abdominal viscera and kidneys, may become congested or inflamed, and cause extensive suppurative action. The period of suppuration is sometimes aggravated by venous or arterial hæmorrhages, and during this period the kidneys, the intestinal canal and the nerve centres are liable to irritative or inflammatory changes. The kidney changes are so constant that they may be expected and looked for in every case of burn of any magnitude. In all cases of burns and scalds involving any considerable extent of surface, where marked constitutional disturbance exists, the kidneys become congested or inflamed, and albuminuria is produced.

In even light cases of burn the presence of albumen may be detected, while in those very severe cases which prove fatal the albumen may amount to two-thirds of the bulk of the urine examined.

A fact worth noting, in this connection, is that the amount of albumen found in the urine after a burn or a scald is coin-

cident with the temperature of the body. If the clinical thermometer shows no elevation of temperature, there is probably no albumen; in cases where the temperature is 101½° to 102° F., albumen is almost certainly present; and the graver the case and the higher the temperature the greater the amount of albumen present. It sometimes happens that for a time after a burn or scald the temperature remains practically normal, and no albumen can be discovered. But if the temperature rises the specific gravity falls, and albumen should be looked for, and will probably be found. As the temperature recedes the albumen disappears. When the temperature rises to 101° F., the specific gravity is apt to be lessened, and albumen will be found; at a temperature of 102° F. the specific gravity is materially lessened, and albumen is quite sure to be found. In cases which receive fatal burns or scalds, albumen is present immediately. Examination by the microscope shows casts, usually epithelial, and blood corpuscles. The presence of albumen should be expected in burns and scalds of any severity, *i.e.*, those involving much extent or depth of the body.

Further pathological results of burns and scalds, besides acute nephritis, are intestinal catarrh, intestinal hæmorrhage, and ulceration of the stomach or duodenum; also erysipelas, hæmorrhages, lockjaw. Laryngitis, bronchitis or pneumonia may also result from scalds or burns. The laryngitis is often produced by the inhalation of hot steam, while the bronchitis and pneumonia are developed by burns of the chest and neck.

Symptoms suggestive of brain involvement frequently appear after burns or scalds, and such complications, accompanied by effusion, do occur. But often the delirium or convulsions are merely the effect of traumatic shock or surgical fever; and it must be remembered that an uræmic condition, attendant upon a marked albuminuria, will many times explain the cerebral symptoms.

When a large amount of skin has been destroyed by a burn or scald, contraction of the part follows; and if the loss of tissue be in the region of a joint, its usefulness is much impaired.

Post-mortem examination of fatal cases of burns have, in some instances, shown hæmorrhagic nephritis.

Frost-bites and burns present so many visible similarities that it is interesting to state here that severe frost-bites, followed by elevation of temperature, cause albuminuria during the high temperature—just like burns.

In this connection of burns and heat, I desire to say a word about high temperature of the body in disease, and it is as follows: Elevation of temperature, or heat, is much overestimated as the damaging element in disease, while the *cause* of the increased heat is too much neglected. In reality, the increase of body-heat is only a *symptom* which requires the hygienic surroundings to be as perfect as possible, with plenty of fresh air, which should be kept in active circulation. The original disease-poison which causes the high temperature is largely eliminated from the system by the kidneys; and it is under such conditions as these, while the kidneys are striving to rid the system of an excessive amount of diseased and effete material (badly handicapped, meanwhile, by the fact of their receiving much less nutriment than in health), that they are liable to suffer irreparable damage. The application of cold to the body in such conditions as these is fraught with danger, and in many instances it undoubtedly develops a fatal kidney complication. In fact, it often happens that a cold pack or bath only serves to increase the temperature and to produce albumen in the urine.

Cases of sunstroke repeatedly and thoroughly deluged with cold water to lower the temperature have been followed by the appearance of albumen in the urine, which increased more and more in volume until all the urinary symptoms of acute parenchymatous metamorphosis appeared.

DISCUSSION.

Dr. Edward Cranch: I wish to call attention to the fact that stricture has been inferred as a consequence of severe burns—a secondary pathological consequence—and that late writers have called attention to the fact that sudden nephritis in cases like these, also in cases of supposed shock, is more often the

cause of sudden death than we have in the past been disposed to admit, and that more often, where death is credited to shock, a post-mortem shows that it is due to acute nephritis. It is well for the profession to bear that in mind, for symptoms sometimes can be checked in time, and a fatal result averted.

Dr. J. W. Hassler: I would like to report a case of burns. About four years ago we had a child who had a burn on the left leg, and when receiving anæsthesia it suddenly died. Upon post-mortem examination the heart and lungs were found in perfect condition, whereas the brain was congested and the ventricles were filled with serum. At that time the explanation was not satisfactory to me, and, upon looking up the subject, I found that in some cases of burns, on post-mortem, the same thing was found.

Dr. Van Baun: I should like to ask whether our members here have, from personal observation with burns, no matter what their character may have been, found albumin present when the temperature reached 102°? That is a very interesting fact to me, for it is the result of observation in a number of cases. The only case I can think of was a child five years of age with an extensive surface-burn, where the fever ran high, as is usually the case in children, reaching 103° and 104°. There was an early examination made of the urine, but no albumin was found in it.

Dr. Guernsey: I would like to be a little careful in making statements. In answering Dr. Van Baun I would say that in the *International Journal of Surgery* (February) there is a series of cases of burns, some ninety-six, I think, taken from hospital records, showing the fact to be universal that the temperature went up in each case.

Dr. Van Baun: Were they all selected cases?

Dr. Guernsey: No; there were cases brought into the hospital with slight burns and with most severe burns, and in the most severe burns albumin was present. It is a bad sign when albuminuria develops early in severe cases of burns. One other case of albumin occurred in two or three days with no rise of temperature, but when the temperature rose, down went the specific gravity.

THREE CASES.

W. K. INGERSOLL, M.D., PHILADELPHIA.

CASE I.—Mr. G.; æt. 22; family history good. Came first to my office for bad cold, with symptoms of indigestion. Cough; few sibilant râles heard in chest. Pulse, 96; temperature, $\frac{1}{2}°$ to $\frac{3}{4}°$ above normal in afternoon.

At the end of two weeks was sent for to see him at his home, where I found a well-developed case of pneumonia, with all the symptoms and physical signs. The middle and lower lobe of the right lung were involved. Pulse, 116; respiration, 32; temperature, 104° to $104\frac{1}{2}°$ F.

At the end of a week was no better. Expectoration slight in quantity, but of a brownish, chocolate, tenacious character. The end of the second week brought no change. In the third week there was developed an inflammation of the elbow-joint on the same side as the pneumonia, also a meningitis lasting six or seven days, with loss of consciousness two or three hours after each convulsion; head retracted.

At this time I obtained sputum, and examined at least ten slides for the bacillus of tuberculosis without finding any. I found, instead, the germ of pneumonia, with a larger number of the streptococci mixed in with them. In places the first would resemble a tangled mass of silk floss.

I had a consultant who diagnosed acute tuberculosis. The same diagnosis was made by an old-school physician who followed me in the case. Was recalled, and found condition still persisting until the end of the seventh week, when temperature went down to normal and recovery took place, leaving a cavity about the size of a walnut in the middle lobe of the right lung, which has since contracted.

The stiffness in the elbow-joint was overcome in about six months by manipulation, and the young man has resumed his position, now about eighteen months, in fairly good health.

As far as could be seen there was no drug that had any

effect upon the progress of the condition. My mind rather leans toward the idea that the system became immune to the germs of the streptococcus, and pneumococcus also.

Case II.—Miss S.; æt. 43; had had indefinite symptoms for some weeks, indigestion, bloating of abdomen, cough, headache, slight rise of temperature at times.

When I was called to see her her temperature was 97½°, pulse over a hundred, respiration 28, localized areas of consolidation in both lungs. Rasping pleuritic sounds in left side. Expectoration of tenacious mucus, streaked with blood. There were indications of disease of aortic valves. Urine scanty, specific gravity 1028, no casts, no sugar, small quantity of red blood and considerable albumin.

Complained most of pain in side and distress in the bloated abdomen. The weakness and distress continued for ten days, when her right arm became much swollen, and in a few days both the lower extremities were œdematous. At the end of between three and four weeks death took place in a syncope.

In examining the sputum there were great numbers of the diplococci in every field, whether it contained nothing but fibrin or lymph cells, blood corpuscles or epithelium. These germs could also be seen in the urine.

There was no post-mortem held. The undertaker told me that the heart was full of clot, and that the descending aorta and right subclavian were so occluded that they had to be individually injected in embalming the body.

Case III.—Mr. S.; æt. 32; family history good. Robust-looking man weighing one hundred and eighty pounds.

He first came to me, having caught a bad cold. In a few days saw him at his home, when I found he had a pulse of 108; temperature, 103°; respiration, 24. Mucous and submucous râles all over chest; nose very much stuffed up. Went a few days without much change, when he was taken with pain in the left side, cough became drier in character, and fluid was demonstrated in left plural sac by hypodermic needle. He later developed a supra-orbital neuralgia, lasting a few days, and otitis media. In about a month after the beginning of the cold he resumed his work.

Pneumococci in tenacious mucus from bronchi and fibrinious fluid of pleural cavity were found in large numbers. Could not be demonstrated in pus from ear, and a very few could be stained in the mucus from the nose.

I have reported these three cases to show the constitutional infection that may take place from the germs of pneumonia.

In a report on the bacteriological investigations of 312 cases made by Joseph James Curry, M.D., in the *Boston Medical and Surgical Journal* of April 22, 1897, the pneumococcus in pure culture occurred once in abscess; in cellulitis, twice; pyosalpinx, once; peritonitis, once, mixed with colon bacillus; otitis media, five times; empyema, nine times.

I quote the above simply to emphasize the fact that these organisms are found in all parts of the body, and play a very important role in different diseases.

AUTO-INFECTION AS A FACTOR OF DISEASE.

J. W. COOLIDGE, M.D., SCRANTON.

A FEW years ago, while on a vacation trip in Colorado, I had a run of typhoid fever, which at the end of three weeks, at the beginning of convalescence, gave rise to coma and convulsions, presumably of uræmic origin. The convulsions were temporarily held in check by inhalations of chloroform. According to the statement of my physician, the urine at the time was scanty and somewhat albuminous, there was no tympany of bowels, and regular alvine movements had taken place up to a few days preceding the development of coma. The general run of things was good up to this period, and the alarming and dangerous turn of affairs seemed wholly unwarranted and unexpected. My physician, a man of large experience, had never witnessed the development of such symptoms in typhoid. Chloroform inhalations controlled the severity of the seizures, but did not interrupt them.

Like a wise man, my physician, when summoned to my relief,

went to his books for further help, and found, fortunately for me, in a copy of *Hale's Practice*, which he had brought from the East, a single line suggesting that in so-called uræmic convulsions it might be well to employ intestinal evacuants. The idea was immediately put into action, the bowels were promptly cleansed by colon flushing, and internal antiseptics were given by the mouth, with the result that at that last almost hopeless hour my life was saved by thus instituting antisepsis in a septic bowel. I think, therefore, that I owe the subject a debt of gratitude, which fully justifies me in being a little personal in the introduction of it before this meeting; further, that I should have a deep interest in its elaboration and a profound desire to profit by its discussion here by men of ripe and varied experience in the field of practical medicine.

I fully realize that the experience and observation of one man is but as a drop of water in that vast sea of experience upon which all truth must rest. I would not presume to say, in regard to the theories or facts of auto-infection, that I can prove the one or gainsay the other, or that any proposition made should be more than tentative, to be receded from or made more assertive as later knowledge might determine; neither can I present in this paper very much that is original beyond a few statements of clinical experience and observation that seem to my mind confirmatory of the doctrine of the chemical pathologist, from whom we have obtained most of our data, and to whom we must still look for further development in this important field of investigation, as much of this knowledge can only be had by chemical investigation, and by the study of the toxic properties of the urine and excreta of the body.

My excuse for presenting the subject here is, I hope, under the circumstances detailed, a valid one. While, as stated, I have made little original investigation beyond recording some clinical data, I have at least earnestly attempted to present a few such facts, together with such others as have been gleaned in the literature of the subject, thus giving what seems to me to be about the gist of the matter, whether demonstrable or not, but important at least as bearing upon questions which

concern the lives of our patients, and especially of importance as having to do with the origin of disease, which makes the subject one of every-day interest to the medical practitioner.

Many of the facts established cannot longer be ignored. Putrefactive processes in the intestinal canal and the development of physiological and pathological alkaloids play an important part in many diseased states until lately little known or understood. In my own case, I am convinced that uræmic poisoning was hardly the true condition, but that, on the other hand, the products of intestinal putrefaction, which the liver should have disposed of, were thrown back into the circulation, embarrassing the kidneys in their effort to eliminate, with coma and convulsions as the sequel of their failure to accomplish the renal function. It has been pretty well proven that urea is in itself a diuretic; that it is barely more toxic than distilled water, and is more of a "bugbear" to doctors than aught else; that so-called cases of uræmic poisoning are not produced by urea alone, but by a combination of all the poisons which render urine toxic; or, in other words, the poisons which should be eliminated by the renal path and are prevented from being so cast off by inadequacy of the kidneys alone.

It has been pretty well shown that many of the accidents called uræmic happen at a period of nephritis when the retention of urea alone does not explain the toxæmia. As long as the urine is of sufficient quantity and has a density high enough, there is no intoxication. To quote Bouchard: "The question of uræmia can only be argued from accidents happening at a time when the kidneys no longer eliminate in a stated period the toxic products introduced into the system or formed by it during this period. Then we may see a series of paroxysmal nervous accidents happen, characterized by pain in the head, dyspnœa of the Cheyne-Stokes type, vomiting, diarrhœa, convulsions and coma. There may also be œdemas and alterations of temperature. . . . Again, there exists a form of so-called uræmia characterized by early dropsies of the external surfaces of the body, general or localized. Such an œdema may increase, the urine diminish in quantity but increase in density, the kidneys excreting solids near to the normal, but not the

fluids. The patient, perhaps, has neither vomiting nor diarrhœa nor any flux capable of carrying away water.' There is simply retention of water in the organism—hydræmic plethora. Here, as long as the urine continues to carry away the total quantity of solids that should be eliminated in a given period, it would be impossible to explain by the theory of intoxication the accidents that might arise." Can any proof be furnished that uræmia does exist? Uræmic patients are those whose urine has lost its toxicity. The whole of the urine for twenty-four hours from an uræmic patient cannot kill a rabbit when used as an intravenous injection.

It yet remains to be known what are the poisons which determine the toxic and chemical accidents of uræmia. Urea injected into the system is only slightly poisonous; it would require the quantity generated in the organism in sixteen days to kill a man, but in double-calculus obstructions, suddenly developed, uræmic accidents appear sometimes at the end of the second day or early in the third. I saw not long ago a puerperal woman who, upon the twelfth day of the lying-in time, was seized by intense pain in the head, first frontal, then occipital, and on the following day difficulty of speech and coma supervened. My first visit to the case was about thirty-six hours after the coma began. She had an elevated temperature but a cold external surface, muscular twitchings, asymmetry of pupils, slow pulse and Cheyne-Stokes respiration. The history was that of a fourth confinement, with instrumental delivery and an uneventful lying-in period. I removed twelve ounces of urine from the bladder at my first visit and six or eight ounces every six hours for the next forty-eight hours, and some was voided incontinently, particularly during the twelve hours preceding her demise. The specific gravity was 1019 to 1021, reaction alkaline, pus and bacteria from the bladder, little albumin and no kidney-casts. She had the history of some cystitis, not painful but frequent urination for a week following confinement. There were no lacerations. The muscular twitchings ceased in about twenty-four hours after the case came under my observation, breathing became more regular, pulse fell below the normal, and temperature abated to near the

normal. She showed a tendency towards consciousness, as evinced by attempts to fondle the baby when put to her breast. Death came suddenly, about sixty hours after I had the case, as if by instant paralysis of the heart and lungs.

The case was believed to be one of uræmic poisoning. I cannot conceive it to have been such, although I have little doubt but that a toxic product developed somewhere in the body, and attacked the brain or its membranes with such virulence as to cause the cerebral œdema which I believe was the immediate cause of her death. Whether bacterial or alkaloidal I cannot say, but with kidneys eliminating up to the normal in solids and fluids, it could not have been uræmic.

Before attempting to discuss the nature of toxic substances produced in the body, we may appropriately refer to their sources, which are chiefly through disassimilation, the secretions of the liver, alimentary and intestinal putrefaction. Now, is it possible to act upon any of these sources of intoxication of the system so as to exhaust or diminish them? It may be stated, in a general way, that man escapes intoxication by the aid of intestinal, cutaneous, pulmonary and renal emunctories.

The functions of the liver and kidney are of the greatest importance. In the first place, the liver protects man by arresting on their way, before they pass into the general circulation, the poisons brought from the intestine by the portal vein, in order to neutralize them, or to throw them back into the intestine. But the most important emunctory is the renal. It can eliminate all poisons generated in the body, save gas alone. By the lungs are eliminated carbonic acid, water, ammonia, often volatile and fatty acids, which explains the fetid breath of people, the subjects of constipation and hypochondriasis. By the skin, water, carbonic acid and volatile fatty acids are eliminated. In uræmic states the attempt is often made to get the skin to eliminate vicariously. The perspiration will carry away fifteen-one-hundredth gramme only of urea with every one-thousand of water, while the same amount of the urine would carry ten times as much urea from the system. We rather lose, therefore, than gain by this process, since perspiration diminishes still further the amount of urine, which alone can

carry out of the system most of its toxic products. I have noticed that when copious perspirations have been induced by pilocarpine the general condition is not improved. It is true that perspirations may help to eliminate poisonous products to some extent, but the true depuration of the system is accomplished chiefly through the kidneys. It is the kidneys that enable the body to be thoroughly cleansed. This is effected by increasing the renal secretions by diuresis, and by the use of cold drinks and cold bathing. It is noticeable in typhoid fever that when the urine increases there is always improvement in the general condition. It has been pretty well established that the skin and lungs cannot vicariously aid the kidneys when they have become incapable of eliminating.

The secretions of the stomach and intestine have no elective action upon urea. Water removed from the tissues, or from the blood by drastic purgatives, contains only one-fiftieth of the quantity of urea contained in urine. Therefore, this quantity of urates eliminated as urine could have removed fifty times more urea by the renal route.

What may be said of bleeding? "In removing two ounces of blood from a uræmic patient we get rid of an amount of toxic material equivalent to that which the kidneys ought to remove in one hour; and, if convulsions can kill the patient in that hour, the patient's life might be saved during that time by removing from his or her system the excess of toxic material which threatened his or her existence."

Marshall, Hale, Raynes and others have employed copious bleeding in uræmia, chiefly in acute curable nephritis, and have seen patients cured who were assuredly threatened by death. There would be no excuse for practicing bleeding toward the termination of chronic nephritis, or along its course, as we would undoubtedly hasten death by so impoverishing the blood. What can be done to delay dis-assimilation, to lessen production of toxic material in the blood and tissues?

Those things which are especially toxic are the products of life without oxygen. It is therefore rational to adopt the practice of Jaccoud, who speaks highly of the inhalations of oxygen

in uræmia. Increase the free oxygen and you will moderately increase dis-assimilation; but the products of this dis-assimilation will be much less toxic. Exposure in fresh air is said to lessen by one-half the toxicity of urine.

Along the therapeutical line other than the indicated remedy may be mentioned foods, such as milk. There is a source of poison resident in the biliary secretions. We can in a measure govern these secretions. The poisonous principle in bile is principally its pigment or coloring-matter, bilirubin. When milk is perfectly digested constipation is established, and the dry and hard fæcal residue which it leaves contains almost no biliary pigment. When it is not digested, and does not absorb bile-pigment, milk purges and increases the secretion of bile. Since it is known that decolorized bile is less toxic, any agent that absorbs its pigment has therapeutic value. That charcoal in sufficient quantities has this property has been fully demonstrated. Further, this agent opposes intestinal putrefaction and is an aid to intestinal asepsis.

An agent capable of producing ideal intestinal asepsis must be one that renders the fæces odorless and is excreted with them; in other words, one that is not absorbable, and produces no toxic symptoms in the system, either by its own chemical action or by splitting up and forming dangerous compounds with other toxic principles in the system. So far as my observation goes we have such agents in naphthaline and iodoform combined, ninety-nine parts of the former to one part of the latter, and administered in five to ten-grain doses. A very important indication is to prevent auto-infection by the products of intestinal putrefaction. Only a small quantity of putrescible material should be admitted into the intestinal canal, so that the digestive residue may form solid masses to present to the absorbing mucous surfaces. Milk food, when well tolerated, produces this desirable result—that is to say, fæcal matter scanty and solid. Thus, from whatever way we may regard it, milk is opposed to all sources of intoxication, except possibly through its bacterial conditions. We should give foods not rich in extractives, and minerals such as potash.

The establishing of asepsis by regimen and by remedies is

of the utmost importance. As stated, from the standpoint of chemical treatment, the best results, I believe, are to be had by the administration of naphthaline and iodoform. Uræmic symptoms have disappeared when complete intestinal asepsis was once thoroughly established.

Aside from the specific treatment, diuretics, milk as food, bleeding for threatened convulsions in acute curable cases, intravenous injections of normal saline solutions, with inhalations of oxygen, seem to be the line of treatment which experience has confirmed. It is also the treatment which arises naturally from such a conception of the disease as I should like to see more fully presented here. Now, while the subject of auto-infection is not a new one, the study of the poisoning of the system by the products of its own tissue metamorphosis has certainly assumed an entirely new aspect in very recent years, through the combined work of different investigators.

Modern pathology has paid close attention to the intermediate product of tissue changes, and enables us, I believe, to have a better understanding of the pathogenesis of quite a number of various morbid states and conditions. Those intermediary products, kreatin, cystin, oxalic acid, grape sugar, lactic acid, ammonia, and others normally produced in very small quantities only, may in cases of disordered tissue metamorphosis be produced in very large quantities and give rise to a variety of morbid symptoms. Here we have certain normal elements becoming poisons by excess. I believe what is generally termed a dyscrasia, through heredity or acquisition, but which would be better called defective nutrition, is a very common cause of chronic disease by auto-intoxication. Of course this class precludes those affections which arise through external causes that provoke nerve-action, reflex action, if you please, or cellular disturbance, or those in which the tissues are diseased by infection by parasites or their products, although all of these causes may act in a secondary manner by intoxication. When nutrition is lessened we frequently observe nervous disturbance, such as apathy, dejection, inaptitude for work, headache; and we generally note in the renal, cutaneous or pulmonary excretions some incompletely-oxidized product, and there are good

reasons for arguing that these products are the probable cause of the nervous symptoms.

If the lowered or depraved nutrition is the cause of nerve-enervation or otherwise, or is the cause of a large share of the poisons, simple or complex, that are produced in the organism and which lead on to disease, we should naturally be led to the study of the functions and the disorders of the intestinal tract as a primary cause. My observation and study incline me to think that when we attempt to consider the stomach and its associated intestinal and hepatic affections we have a large job on our hands. Bouchard shows that, taking ten patients at large in a hospital, we will find three of this number with dilatation of the stomach. Now, what does this mean? Why has dilatation been so little known, if so frequent? "Principally, it is stated, because it cannot be recognized save by establishing its physical signs; but often, on examination of the patient, the symptoms of which he complains are not of the nature to lead us to look for it or to suggest a local examination." It may be asked, How can we establish the diagnosis of dilatation of the stomach? In general, every stomach which is not retracted when it is empty is a dilated stomach. A dilated stomach, then, is a stretched stomach, the cavity of which is apparent only when it is empty, because, though its walls touch each other, it is no longer capable of diminishing its own size by retraction.

The physical signs can be furnished by different methods of examination. Percussion is difficult and delicate to produce, sometimes insufficient, and is rendered false in its results owing to tympanites of the colon. Succussion furnishes no certain sign. It may bring out the sound of fluid in a normal stomach, and yet it cannot reveal the extent of the dilatation. The best sign is that pointed out by Chomell, namely, that of water splashing in the stomach of a patient who has been fasting. If it is not heard at first stroke we cannot affirm that the stomach is not dilated; it may be flattened and fall flabbily behind the abdominal wall like an apron; but if we introduce about one-third of a glass of water into a dilated stomach, there may be immediately heard splashing over a region much greater than in a normal stomach.

This sound should be heard below the middle of a line drawn from the umbilicus to the point nearest to the border of the left costal arch. Chomell does not regard this line, however, of great importance, as every stomach which is not retracted while empty is a dilated stomach. One may, indeed, have a large stomach and not experience dyspeptic symptoms, but he will nevertheless be a victim of disturbance in the elaboration of food. "People whose stomachs are dilated become ill slowly, as a rule; they are the victims of insufficient alimentation because the alimentary material, incompletely digested and undergoing putrid fermentation, is no longer sufficient for their nutrition; they are chlorotic, hypochondriacal, and without energy; the appetite is in general preserved, and often augmented; often those who are subjects of dilatation eat largely and suffer no pain, but at the end of two, three or four hours the stomach is blown out, eructations are produced, pyrosis, regurgitations, acidity—all of which demonstrate the anomalous fermentation which is going on in the stomach, due probably to the formation of acetic acid, and in consequence of which the entire length of the digestive tube is more or less inflamed."

There is catarrh of stomach, ulceration, gastritis; the large bowel is irritated, and with the fæces are seen glairy mucus and sometimes blood. Besides the gastro-intestinal dyspepsia there may exist hepatic congestion, hepatic tenderness, and often jaundice. To the enlarged stomach with the frequently-recurring hepatic fulness has been attributed the floating right kidney so often found associated with these symptoms; and its greater frequency in women is, I believe, due, in a measure, to the additional pressure of the corset at the base of the thorax.

I now have a patient with floating right kidney, whom I have several times attended during these attacks of hepatic congestion—so-called "bilious attacks"—when the "lump in the side" became troublesome, but was never of much trouble at other times. There are many symptoms, in these cases of stomach enlargement, on the side of general nutrition and disturbances of the emunctories; they are chilly, but perspire freely upon slight exertion; often the perspirations are of a musty odor; they have eczemas, pityriasis in front of sternum,

urticaria, acne, bad breath, take cold easily, cough, the bronchi secrete mucus, and there may be asthmatic breathing. One symptom noted by Bouchard I have several times seen—nodosities at the level of the second articulation of the fingers. He says that when you find this, it is nearly always accompanied by dilatation of the stomach, due, probably, to general perversion of nutrition, but pathognomonic, quite, of the affection. In rachitic infants we have similar nodosities, due to the primary disease of the stomach.

Different groupings of symptoms are noticeable. There is a group simulating biliary lithiasis. Pseudo-gastralgic pains, which are really gastralgia, show themselves slowly when intestinal digestion begins, owing to deficiency of hydrochloric acid or excess of acetic acid, which irritates the mucosa of the intestinal tract. The neurosal type, with vertigo, depression in the morning, spasms of fingers, spinal irritations, cerebro-cardiac neurosis, hypochondriasis. The cardiac form, with palpitations, breathlessness, beating in the temples, redness of the face, cardiac oppression, symptoms of vasomotor disturbances. The renal form, with albuminuria, without cardiac hypertrophy or kidney lesion. The rheumatoid type, with its joint manifestation, or perhaps phlebitis, and the acute or chronic consumptive type, where the patient has suffered with his stomach for many years, and finally becomes exhausted and hypochondriacal.

Putrefaction of the alimentary residue develops poisons, and while the liver, which receives these poisons as they are absorbed and brought to it by the portal vein, is generally able to neutralize or return them again to the bowel to be excreted, this organ, by its own secretions, may become a source of auto-infection. Bile is very abundant, almost equal in quantity to the urine, and is a diffusible liquid, passing by osmosis into the blood. Man forms in eight hours enough poison to kill himself by his hepatic secretions, and, the quantity being nearly *equal*, the toxic properties of bile is nine times as *great* as that of urine.

The blood, however, is able to reject most of this poison, as we observe, in sudden occlusion of the bile-duct from gall-stone, usually twenty-four hours will pass before the icteric hue

of the skin is noticeable. The urine is colored more quickly, and it is presumable that the tissues—cellular, fibrous and muscular—are first impregnated. Experience shows that the kidneys are constantly eliminating and the connective-tissue acting as a storage-reservoir of poison which the blood reabsorbs only gradually. That these tissues, which occupy the lowest rank among anatomical elements, protect man by drawing from the blood the coloring-matter of the bile, which is its most toxic principle, seems to be well established.

The greatest danger in jaundice, therefore, is a kidney which fails to eliminate. On the other hand, with a healthy kidney, jaundice is curable. The true protecting agent of the system is the kidney, which fact should never be lost sight of in all cases of systemic poisoning; and so it may be said that the healthy man is both a receptacle and a laboratory of poisons. He receives them in his food, he creates them by disassimilation, and he forms them in his secretions, and yet he is defended in various ways against poisoning. His liver protects him by arresting on their way, before they pass into the general circulation, the poisons brought from the intestines by the portal vein, in order to neutralize them or pour them back into the bowel. Then the excretory system expels the poisons which are in the circulation. The most common condition in which we find intoxication occurring is, I believe, through the alimentary canal. It is by provoking gastric fermentation through error of diet, by excessive intestinal fermentation, by preparing poisons, and especially acetic acid or excess of hydrochloric acid, that dilatation of the stomach vitiates the nutrition of many of the tissues and organs of the body.

The bile is poisonous chiefly by its pigment, bilirubin. The system is saved from this source of poisoning mainly by the kidneys and connective tissue, cellular and fibrous, the white fibres holding the coloring-matter, which, if allowed to remain in the circulation, would seriously affect the nerve-cells.

As a case illustrating chronic auto-infection I may mention that of a lady sixty years of age, who for a dozen years or so has been under my care. During much of this time she has been compelled to restrict her dietary to a few articles of food,

mainly nitrogenous, with cereals and stale bread. She was the subject of slow digestion, bulimia, furred and cracked tongue, foul breath, headache, muscular debility and obstinate constipation, with hypochondriasis. She was debilitated, and her complexion sallow and muddy. About four months ago she had complete stoppage of the bowels, the cause of which was found, through the lax abdominal walls, to be at the sigmoid. A laparotomy was made, and a large adeno-sarcoma, embracing and constricting the lumen of bowels, was removed from the abdomen, first by exclusion, and after thirty-six hours, when pretty fair adhesion of the gut to the abdominal walls were secured, the mass was excised. She made an uneventful recovery; and, although the bowel has not been reunited, she digests her food as she has not in many years. She eats almost everything, is in excellent spirits, has gained fifteen pounds of flesh, and in place of the sallow and tawny complexion, she is getting a red-and-white complexion, and says she is so happy in her present state that she does not wish to have the bowel united for fear of being obliged to return to her former condition. While the tumor microscopically is a cancer, constitutionally I believe it is not; there seem to be no invasion of the lymph-channels nor secondary deposits, and I attribute her improved health not so much to the removal of malignant, diseased tissue, as to the opening up of a channel whereby putrescence and putrefaction of food-products are eliminated.

It is interesting, in this case, to note that she has the enlarged second-joint articulation of the fingers.

THE PATHOLOGY OF STRICTURE OF THE MALE URETHRA.

CARL V. VISCHER, M.D., PHILADELPHIA.

It is not the object of this paper, which, of necessity, will be brief, to enter into an exhaustive discussion of the subject, but simply to call your attention to the development of a condi-

tion, if you please, that is of extremely frequent occurrence, and one which, I believe, is not uncommonly the direct cause of changes that lead, sooner or later, to the most serious consequences. This, together with the fact that stricture is only too often considered in a superficial manner—not being given the careful attention it deserves—has prompted the creation of this paper.

It may, perhaps, be well to briefly recall sufficient of the anatomy of the urethra to bring before your minds the tissues with which we have to deal. The urethra is a tube, some eight or nine inches in length, leading from the bladder to the end of the penis, serving as a drainage to the former and as a channel of escape for the seminal fluid. Its function, therefore, is twofold, it acting both as an urinary and a sexual organ. It is divided into three portions, *i.e.*, the prostatic urethra, that part leading from the bladder through the prostate gland, and which at times is spoken of as the vesical neck, and in which we find such important structures as the veru montanum, the orifices of the ejaculatory ducts, and the prostatic sinuses, into which open the ducts of the prostate gland. The membranous urethra, the only fixed portion of the canal, and which is a continuation of the former, is held in place between the two layers of the triangular ligament. This is the most muscular part of the canal, and is in close relation with Cowper's glands. Finally, the spongy or pendulous urethra, so called from the nature of the surrounding tissue and from its dependant position. This extends from the membranous urethra to the external meatus, presenting two dilatations, the pars bulbosa and the fossa navicularis, and contains numerous glands, the openings of which are known as lacunæ.

Histologically, we find the urethra composed of three coats: first, the mucous, consisting of mucous membrane continuous with that of the bladder, kidneys, and adjacent structures; second, the submucous, composed of loose connective with some little erectile tissue; and, finally, the muscular, consisting of both longitudinal and circular muscular fibres, which are, however, most typically developed about the prostatic and membranous portions, being scarcely more than fibrous in

character when reaching the pendulous part. The vessels are derived from the pudic artery, and are largely found in the submucous coat. The nerves are continuations of the pudic, and are principally centred in the deeper portions of the canal. It is also freely supplied with lymphatic vessels.

From the construction of this canal it can be readily seen that it offers the greatest inducement for inflammatory changes, the continuation of which is favored by its physiological functions. The urethra, by virtue of its anatomy, is capable of being the seat of either a catarrhal or a suppurative inflammation, and any or all of the changes naturally following. The former variety can be dismissed with a few words, it not bearing to any important extent on the subject under consideration, simply remembering that it is a possibility for such an inflammation to spread by contiguity of tissue into the submucous or connective tissue coat, and produce a hyperplasia, which ultimately results in the formation of a stricture.

The suppurative inflammation is, in the vast majority of instances, specific, *i.e.*, gonorrhœal in character, and is from the beginning a process involving both the connective tissue and mucous coats, and as such (suppurative) is necessarily destructive rather than constructive in its tendency, the degree of destruction depending upon the virulence of the infection and the length of its duration. Hence, the more intense the infection and the more protracted the inflammation the greater the liability to stricture formation.

The epithelial lining of the mucous membrane having but to a limited degree the power of regeneration, large areas necessarily heal by the development of inflammatory tissue, which in this instance is synonymous to stricture. The subepithelial and submucous tissue being of the same nature, destructive changes result in the same manner.

In a "nutshell," then, we may say the more intense the infection the longer the period of duration, and the greater the degree of destruction the greater will be the development of scar tissue, *i.e.*, stricture. Where the inflammation passes into a chronic form it gradually assumes more and more the catarrhal nature, and this, in turn, by virtue of hypernutrition, leads

to hyperplasia, which, if in the submucous coat, may ultimately result in stricture.

The development of a stricture is found to take place usually in those parts of the canal which, by virtue of its construction, favor most the localization of the inflammation; hence, in the anterior and posterior portions of the pendulous urethra.

Having thus gone over the development of stricture, we may with advantage follow out the natural course of such scar formation, which has, as is well known, an inherent tendency to contract. This being true, the size of the stricture, or, more accurately speaking, the size of the canal at the site of stricture, depends, first, upon the amount of scar tissue; second, upon the degree of contraction that has taken place; and, finally, the manner in which the scar has formed. The diminution in the size of the canal is oftentimes in inverse ratio to the amount of scar tissue. This leads us to the classification of strictures.

Strictures are best classified, first, as to the relation they bear to the canal. For example, the most common manner for their development is upon one or the other wall of the urethra, appearing as a simple thickening which may extend from a few lines to several inches in length. The cicatricial deposit here corresponds to the long axis of the canal, and during its contraction may not impinge as much upon the urethral calibre as when the scar formation is but a few lines in width, but extends about the entire circumference of the urethra. This latter variety is of rarer occurrence, though Otis argues that the former almost invariably leads to a development of scar tissue about the entire circumference, ultimately resulting then in the second or annular variety.

No matter how slight the development of scar tissue, if it infringes on the calibre of the urethra at all it acts as a point of irritation, and, doing so, gives rise to a condition of hyperæmia. This, in turn, produces cellular hyperplasia, which more than equalizes the absorptive power of the former, and results in the increase of the existing impediment. As scar tissue is liable to subsequent changes, we find, at times, particularly when the

stricture is extensive and old, the deposit of lime salts, giving rise to another variety known as the callous stricture, in contradistinction to the elastic or resilient, consisting of cicatricial tissue of more recent origin.

The changes directly due and subsequent to stricture formation are at the commencement mechanical in their character, hence depending largely, first, upon the size of the contracture, and, second, upon the length of time of its existence, probably the primary change occurring in the immediate vicinity of the scar, where, owing to contraction, an ischæmia ensues. This, naturally, has a tendency to lessen the normal tissue resistance, but is only temporary in character. The stream of water, during micturition, acting as an irritant, soon causes the opposite condition, with the tendency to an increase of the obstruction. The canal on the proximal side of the stricture soon dilates, giving rise to a development of pockets. The effect of this "back-water" necessarily sooner or later involves all the organs proximately situated to the seat of obstruction, even to the heart, as Fenwick has shown; hence in the prostate, bladder, ureters, and finally, but by no means least, in the kidneys, the continuous irritation gives rise to a chronic hyperæmia. This leads to tissue hyperplasia, with its subsequent changes; in short, to a low grade of kidney inflammation, *i.e.*, an interstitial nephritis.

I feel sure this fact is frequently overlooked as an etiological factor in the development of Bright's disease, and proves an important reason why urethral contractures deserve more careful attention than is often given.

In conclusion, we may briefly mention traumatic strictures, which are the result of wounds that are followed by the development of scar tissue, and therefore are identical in character to what we have learned to consider as organic. They are more often found in the deep urethra, for the reason that it is this portion of the canal that is mostly exposed to injuries—though, of course, they may occur at any point.

Inflammatory strictures result from infiltration of the mucous and submucous coats accompanying an acute inflammation, therefore cannot properly be classified as belonging to strictures

in the narrower sense. The spasmodic stricture—this, also, cannot be spoken of as a true stricture, it simply being a temporary narrowing or obstruction of the canal due to a spasm of the muscular coat, and is most common in the deep urethra, being caused by an organic stricture of large calibre, or by some other irritant, as acid urine, stone, etc. At times it is due to a psychical condition.

In conclusion, we may mention congenital strictures. These, with rare exceptions, occur at the meatus, and in the majority of instances are postnatal, the result of a balano-posthitis.

From what has been stated, we may thus define a stricture as an infringement upon the normal urethral calibre, due to an organic change in the wall or surrounding tissue.

TWO CASES OF CONGESTIVE CHILLS.

J. P. BIRCH, M.D., PHILADELPHIA.

I WAS called to see a patient, a young girl of 15 years, at 11.30 P.M., Wednesday, August 25, 1897. She was suffering from very great pain in the abdomen—so much so that she could not keep in bed, but moved about the room, moaning and sobbing. She had great thirst, and vomited at times. Her pulse was weak, and she was icy cold and pale. I got her to bed, covered with blankets, and heat applied to feet and abdomen. I gave one-fourth grain of morph. sulph. at once, and aconite in water every 15 minutes. Before daylight—now Thursday morning, August 26th—she began to perspire, her pulse became more rapid and stronger, and she much better. The pains were more wandering, extending to the left side, by the lower ribs. I changed the remedy, and now gave quinine. I called again at noon. She reported that she was feeling somewhat better, but the pain still lingered in her left side. I continued the quinine.

The next morning, August 27th, at 4 A.M., I was called again in haste, for she was again in great agony, the extremities and surface of body cold, pulse very weak at wrist, but easily felt in the neck: much perspiration; unable to speak so

as to be understood. I sent for Dr. C. R. Norton, to advise with. Nothing that was done seemed to revive her and she passed away at half-past five o'clock, about one hour and a half after my arrival. She had but two chills. A few hours after her death a large quantity of blood gushed out of the mouth and nose. No doubt the blood came from the bursting of bloodvessels in the lungs.

This girl was large for her age, well developed, weight over 100 pounds, and her menses were regular. At the time of the attack it was the second day of the menses.

For some weeks before this she was not feeling well—chilly at times, and no ambition to accomplish anything. She preferred to lie around, as the usual saying goes. I learned also that water a foot in depth was in the cellar. The cellar, having been dug deeper than the other cellars around, naturally received the drainage from the other cellars, and the yards especially, after a rain, although it had a cemented floor.

Case II.—Tuesday morning, August 24, 1897, I prescribed for a man, 27 years old, for pains in left shoulder and side of neck. He had fallen from a car six days before, landing on neck and shoulder. These pains lingered, and he wanted to return to his work in a day or so, he said.

The next morning, Wednesday, August 25th, he reported himself feeling quite well, but in the afternoon at 3 o'clock he had a chill, which ended in fever and perspiration. The morning following—Thursday, the 26th—he felt well, but that night at 9 p.m. had another chill.

The next morning, Friday, August 27th, felt well—temperature was 98.5°, pulse natural—and he ate a hearty supper on his own advice, and contrary to orders.

The morning following—Saturday—at 1 a.m., had a severe chill and pains in stomach and abdomen; very cold skin and extremities; vomiting; also great thirst. The perspiration was excessive, pulse weak, rapid, and the temperature 105.8°. Through that day (Saturday) he improved; temperature fell to 98.5°; perspiration gradually disappeared, and he felt quite comfortable. That evening he asked for more covering, for he was afraid of another chill. At 3 o'clock Sunday morning the

fever came on again. The temperature went up to 106.8° by the mouth and to 107.3° by the rectum; pulse weak and above 150; great perspiration, and he in a comatose state. He could be aroused at times to answer a question, and then he would sink back into the same state. His answers intimated that he had no pains, but felt easy. By the use of quinine and strychnia, or by some other means, be began to rally. He opened his eyes, smiled at those present, and would answer questions readily. He said that he felt all right. The temperature now 105.7°, going down. At 11 A.M. his pulse was stronger and not so rapid. He turned on his side and said he wanted to sleep. At 1 o'clock P.M. he suddenly roused up, and after a few gasps expired.

At the autopsy, made by Dr. P. Sharples Hall, Dr. C. R. Norton also present, we found a large collection of blood in the peritoneal cavity—two quarts, perhaps. The spleen was very much enlarged—four or five times its natural size—darker in color, and ruptured at its anterior connection with the stomach. Upon pressing the spleen between the thumb and fingers it appeared very loose in texture and mushy. The examination was confined mostly to the spleen. The liver and other organs were not exposed to view.

The mesentery, however, seemed to the writer to show some effects of the congestion. Along the edges, in places, the lines or courses of the bloodvessels seemed darker in color.

This last case proved to be one of very great congestion of the spleen—so much so that it could not resist the pressure and its walls gave way. As in all chills the blood is borne somewhere in the internal organs, here the spleen was the great reservoir. I learned from his friends that he was or had been somewhat intemperate, and did sometimes lie out all night on the bare ground with no covering.

It would be a great source of satisfaction to me had I made an autopsy of the first case, for I believe that in that case also the spleen was enormously enlarged and under great pressure. The weaker points would first yield, and, as I before remarked, that weaker point was in the tender membranes of the air-tubes and cells of the lungs.

REPORT OF THE SECTION OF PÆDOLOGY.

Pathognomonic Symptomatology in Diseases of Children, by William H. Cooper, M.D.
Eczema in Infants, by Sarah J. Coe, M.D.
Infantile Diarrhœa, by Theodore P. Gittens, M.D.
Convulsions in Children, by D. C. Kline, M.D.
Some Thoughts on Milk as a Food for Infants, by T. Elwood Parker, M.D.

PATHOGNOMONIC SYMPTOMATOLOGY IN DISEASES OF CHILDREN.

WM. H. COOPER, M.D., OAKMONT.

It is a common remark of parents that infants and children are so hard to treat and to prescribe for when ill. This is true to a certain extent, when one considers how difficult it is to look after them properly when they are well. From a physician's standpoint the difficulty is not so great if the prescriber be well versed in pathology, materia medica and the objective symptomatology of each disease. It is not within the province of this paper to enumerate all the pathognomonic symptoms of the entire list of infantile troubles, but apropos to the papers in hand it will not be out of place to consider some of the most important symptoms upon which alone we must often make a diagnosis and a prescription.

To the homœopathist there is a striking analogy between the objective symptoms of disease and the key-note or striking symptoms of a drug-proving. Twitching of the eyelids, rolling, oscillation and squinting of the eyeballs are forerunners of a spasm, and one thinks at once of apis, belladonna or cicuta. Fan-like motions of the alæ nasi accompany impeded respiration and point to pleurisy or capillary bronchitis. This one

symptom alone, strongly suggestive of lycopodium, must not be the only one upon which to make the diagnosis and prescription; but on searching further, how often do we not find many other symptoms to corroborate both the diagnosis and the remedy? Puffiness of the eyelids and a fulness over the bridge of the nose suggest a renal trouble. One unconsciously, as it were, begins to differentiate between apis, arsenicum and kali carb. How close the resemblance between the tubercular diathesis and phosphorus when the symptoms of the latter are compared with an oval face, smooth, transparent skin, fine, dark, silky hair, running low down over the forehead; long, curving eyelashes, deep-colored irides, and large pearly-white or bluish sclerotics! As a contrast, take a heavy, doughy face, with protruding upper-lip, a wide, flat nose and thick alæ nasi, swollen eyelids, with reddened edges, coarse hair, enlarged lymphatics in the neck, and with some form of eruption on face or body, or both. Intuitively you label the picture scrofula, and right alongside you will find similar pictures in sulphur, the calcareas and silicea.

Rolling or boring movements of the head point to cerebral disease, and at the same time to belladonna and hellebore. A restrained position, with short, hurried respirations, is highly suggestive of inflammatory conditions of the thorax or abdomen, and also of bryonia or phosphorus. A bright, circumscribed redness of one or both cheeks is often present in diseases of the lung, pleura or gastro-intestinal catarrh. Chamomilla has produced a very similar hyperæmia and like pathological conditions.

Incessant, unappeasable crying is due either to hunger or earache. The breast or a properly-prepared bottle will aid in diagnosing the former condition; a little warm water dropped in both ears will dry up the fountains if otalgia is present. Chamomilla or pulsatilla may keep them dried up.

Crying during or after an attack of coughing leads one to examine the lungs, and a mental review of bryonia and tartar emetic follows as a matter of course.

In diarrhœa, with partly-liquid and partly-solid stools having curds of milk and particles of undigested food, one thinks of

indigestion and magnesia carb. or oleander simultaneously. Clay-colored or whitish stools indicate deficiency of bile, and calcarea carb., china, belladonna, digitalis, hepar and phos. acid demand recognition.

The totality of symptoms should always be considered in diagnosing or prescribing; but a peculiar, striking pathognomonic symptom will very often be the thread upon which we may string all other symptoms that go to make up the totality-chain and from which may be suspended that grandest of pendants, the corresponding homœopathic remedy.

ECZEMA IN INFANTS.

SARAH J. COE, M.D., WILKESBARRE.

From the first few weeks of extra-uterine life, and in some cases from birth, infants are liable to eczema. It occurs among the rich as well as among the poor, although less likely to assume an aggravated form when the child is properly cared for.

Its course is somewhat irregular, appearing better and worse from week to week, the occasional exacerbations being usually unaccountable.

Perhaps no disease is more annoying to the mother, because of the child's distress and the repulsive appearance of her well-beloved.

Eczema in infants and young children is due either to digestive disturbances, to teething, or to that inherited weakness of constitution and poor nutrition generally attributed to the scrofulous habit.

Bottle-fed infants are most apt to suffer from indigestion, and are therefore more liable to the affection.

Some assert that teething has nothing to do with the causation of infantile eczema.

While too much stress must not be laid upon this cause, my experience has been that if the tendency to eczema exists, each tooth, as it comes out, will be accompanied by an eczematous rash, which fades away as the tooth develops.

An inherited—or, at least, a congenital—tendency to eczematous inflammation cannot be denied in many cases, and such may be difficult to cure. For instance, a young mother, with four children, each of whom had this rash during teething, called me for her fifth confinement. The rash commenced about the third day after birth, but, under carefully-selected remedies, did not extend to the teething period. I asked the privilege of giving the mother herself the medicine during the sixth pregnancy, and the result was no rash on the new-born child, and it passed its teething period without any.

She was surprised to see the result of homœopathic medicine, as the first four children each had the rash while cutting teeth, and she supposed the others must.

These were not bottle-fed children, and there were no signs of indigestion.

With improper nourishment and bad hygienic surroundings the disease may take on a severe form.

The *diagnosis* of infantile eczema is usually not difficult when the characteristic exudation is present. When the eruption is dry, scaly or crusted, mistakes sometimes occur.

Inherited syphilis might be confounded with it, but it should be remembered that the lesions in such a case are liable to accumulate about the mucous orifices, are circular in form when dry, and do not present symptoms of severe itching even when moist.

The vesicular and pustular forms of eczema are those most frequently met with upon the cheeks, behind the ears, and about the head generally.

There may be patches of the eruption upon the trunk and extremities, but not so frequently. The eruption usually affects the anterior portion of the scalp, except when pediculi are the cause of the trouble, in which case the irritation and scratching usually produce an eruption on the occiput. The seborrhœa, which so frequently forms a dirty, greasy and persistent coating upon the crown of the infant's head, may be the starting-point of an eczema which may spread down upon the ears and cheeks.

When the child's hair is thick there may be gumming to-

gether of bundles of hair with the mucilaginous discharge, which oozes through the broken crusts and often becomes very offensive. The crusts are frequently full of pediculi.

No doubt the out-clinics of our hospitals furnish the most marked cases of infantile eczema. A visit to the London Hospital for Skin Diseases gives one an opportunity to see fifty such cases in one hour.

Papular eczema is more apt to occur in older children; it may very readily be mistaken for scabies, but in the latter affection the history of contagion, where the children sleeping together are all affected, the limitation of the eruption to the trunk and extremities, and discovery of the burrow of the acarus upon the soft skin, between the fingers, or elsewhere, will reveal the parasitic origin of the eruption.

Urticaria may be distinguished when the history given is of the sudden outbreak and speedy disappearance of red or white lumps upon the skin.

The eczema eruption, when at its height, is generally moist and covered with a crust like a coat of varnish, which cracks whenever the skin becomes more inflamed and swollen, and the discharge, oozing through the cracks and drying gradually, causes a thickening and a very irregular surface of the crust.

If the crusts are thrown off by an increased discharge or by scratching, a red, raw and angry-looking patch is exposed, which becomes quickly covered by a new crust.

If the child is allowed to scratch the face hæmorrhage may ensue, or scars may be left after the healing. Some writers say there are fatal hæmorrhages occurring in eczema of the face in children of a hemorrhagic diathesis when all styptics have proved fruitless.

The *treatment* of infantile eczema much depends, to a considerable extent, upon the cause. When indigestion seems to be at the bottom of it, the food must be changed and regulated.

It is a very common custom of mothers to nurse the child whenever it cries, and as the crying usually results from a disordered digestion, the practice of giving the breast every half-hour only adds to the child's discomfort and aggravates the eruption.

If the mother's milk is insufficient in quantity, it is well to supply the lack with one of the best baby foods on the market. If it is poor in quality, it is better to wean the infant, providing it is not in midsummer.

Regularity in feeding should be insisted on, as well as regularity in all its habits.

Some mothers teach their infants at three months of age to evacuate the bowels at a certain time each morning. They cause them to sleep and eat as regularly as the striking of a clock.

Many mothers are very foolish about taking their eczematous children into the out-door air, but if insisted upon, they soon notice the soothing effect, and the little sufferer who has refused to sleep will be quieted.

Too frequent washing of a child affected with eczema may aggravate the inflamed condition. For cleansing purposes the parts may be bathed with witch-hazel diluted one-half with water. When the disease is accompanied by excessive itching, the hands should be covered to avoid laceration of the skin.

Objection is made to the use of external adjuvants, but should not these diseased, irritated surfaces be relieved by soothing external applications as much as we would protect a burn or a cut?

The itching of the face may be greatly relieved and the crusts softened by the use of oily substances like vaseline, calendula cerate, sweet oil, or cold cream.

A saturated solution of boracic acid made with boiling water, with a little glycerin added, may be applied from three to six times a day.

Some one advises the use of pure cider vinegar diluted with water, one part to three, applied to the scalp twice a day, after the hair has been clipped and the scalp thoroughly washed with castile soap.

If the hair is badly matted and offensive, I have the baby's hair clipped as closely as possible and vaseline applied to soften the crusts, then wash carefully with carbolic soap and tepid water. If the weather is cold, put on a thin muslin cap, which can be frequently washed and boiled. Glycoboron and vaseline make a good application after the washing.

For internal remedies I individualize each case. *Calcarea carbonica* has helped more frequently when there seemed to be irritation from teething, also in children of a scrofulous habit. The eruption is covered with thick scabs, with yellow pus underneath. The stools are white like chalk, and the child has cold, damp feet. *Graphites*, when the eruption exudes a sticky fluid. It appears mostly on chin, and especially behind the ears.

The mercurials have cleared up many cases of eczema in early childhood before the teething process commenced.

Kali mur. will be found useful when there are albuminoid secretions or contents, and if one is not afraid to alternate remedies, *ferrum phos.* may be given with it to advantage.

Dulcamara has thick, brown, herpetic crusts on the face, forehead, temples and chin, with reddish borders—bleeding when scratched.

Arsenicum when the discharge from the eruption is acrid and itches violently; worse at night, and in cold air. Better from external warmth.

Sepia has a moist, almost constantly discharging pus-like matter. Sometimes the eruption appears in form of ringworm.

Sulphur has soreness and excoriations in the folds of the skin. Where the eruption extends more or less over the whole body, with violent itching. Bleeding after scratching. Early morning diarrhœa. Scrofulous habit.

Kali phos., *kali sulph.*, *nat. mur.*, *nat. sulph.*, *nat. phos.*, *lyc.*, *rhus*, are all good in their places. To cure we must choose wisely.

In the *Medical Genius* we are told by Mr. Jones that *viola tricolor* (fld. ext.) three drops, three times a day, will effect a speedy cure.

It is quite essential that the physician should give explicit directions, and see that the nurse or mother understands them, otherwise his skill and medicine are underrated, especially if the case be an obstinate one.

Discussion.

Dr. Edward M. Gramm: *Mr. President*—There is no question about it that this is an excellent *résumé* of our knowledge

of eczema, and of the standpoint of so many physicians that in eczema we have a disease which has practically but two causes: Those either of internal origin, in the form of some digestive disturbance, or due to some inherited taint from which the child suffers. I have very carefully watched the children I have had under my care suffering from eczema, and in almost all instances—not in all, but in almost all—I have been able to find an external cause as the awakening agent of the disease in the child. If you will ask the parents of your little patients where the eczema started, the chances are that in 99 per cent. of them the eczema started either on the vertex, where some of the sebaceous secretion still forms after the child is born, or it started in some normal folds of the body. The explanation of the starting of the disease on the vertex in the majority of cases is the improper, forcible and ignorant removal of the remains of the *vernix caseosa*—the increased sebum formation that occurs *in utero*. This removal is done in a great many cases by the mother or nurse scratching, scraping and injuring the skin of the vertex by a fine-toothed comb. The sebum of the vertex, as we all know, takes on a peculiar, dull, dirty color. The mothers do not care to have their children looking as if they were not properly cared for, and they get at this sebum with some instrument that is entirely out of place, foreign and injurious to the delicate skin of the infant.

And I say that often the eczema starts in the folds of the skin in another large proportion of cases. Improper washing, in a great many cases, is to blame for the starting of eczema in these children. How many mothers wash their children properly? How many of them, instead of rinsing off the soap and water, give the children the "good bath," as they call it, that is, full of soapsuds, and then dry the children off. They do not dry them sufficiently in the folds of the skin, nor rinse them off with clean water, and the soapsuds are left behind to irritate the tender skin.

There are cases which it seems you cannot trace to an external cause, but in the majority of instances we feel satisfied that we have an external cause and not an internal one to deal with.

So far as treatment is concerned, we have poor little mortals suffering agonies from itching and burning, abrading the surface with their finger-nails to get relief, and it seems to me we can do these little ones a great deal of good by using substances which relieve the itching, while we give the internal remedies that will cure the disease. We *can* relieve their suffering—the itching and burning—rendered unbearable from loss of sleep, and the greatest difference in the world can be brought about if antipruritics are applied to the surface of the body, and proper internal remedies given. We know that in a great many of these little ones boils have a tendency to develop sooner or later; and to the remedies that the doctor has mentioned I would add one, *lappa major*—the *Arctium Lappa*—which is a sovereign remedy for the cure of this condition.

Dr. C. Sigmund Raue: I think we are apt to overlook another cause—a constitutional cause—of infantile eczema by neglecting to regulate the child's diet. It is a well-known fact that most of these children are of a rheumatic diathesis. This is not only the case, but we often have urinary troubles, and if the urinary symptoms become normal the irritation generally disappears.

An excess of proteids in the food will only increase the trouble. Therefore, if the child is of a rheumatic diathesis, if an analysis of the mother's milk shows excessive proteids, we can overcome this by regulating the mother's diet, increasing the exercise, and cutting down the fat and proteids. If this fails, it may be necessary to wean the child and put it on an artificial milk diet, which you can make yourself.

Another thing, the child is very seldom given water; every time it cries it is put to the breast. If these children were given plenty of water and these little wants of diet attended to, I believe the remedies would act very much more rapidly.

Dr. Theodore Sureth: A doctor was called into a case and discovered phimosis—an adherent prepuce—and after circumcision the patient yielded more promptly to the remedies and a cure was brought about.

Dr. W. J. Martin: I would like to have Dr. Gramm answer certain questions. He spoke about the improper way in which

this crusty sebum, which accumulates on the scalp of some babies, is removed. I would like him to inform us of the proper way.

Dr. Edward M. Gramm: There is a very ready method of getting rid of this sebaceous accumulation. Dr. Coe mixes the sebaceous material with fats and oils, then washes off gently, repeating the process over and over again.

The recommendation of physicians to patients is to use oil for getting crusts off. You must give your patients instructions that oil is to be used over and over again until the crusts are absolutely oil-soaked—so thoroughly mixed with oil that it is an utter impossibility for them to adhere. The sebum undergoes such rapid changes when thrown out upon the surface of the body, in these seborrhœic conditions of the scalp, that it adheres exceedingly closely; you can remove it by using olive oil, and repeat that every ten minutes for one or two hours. Persistent removal will soon bring about a disappearance of all the sebaceous material from the vertex.

Dr. Korndœrfer: I have nothing special to mention, except that I would say one word in reference to Dr. Martin's question, and that is, the old-fashioned method, used many years ago, is just as efficacious to-day, that of rubbing on lard, to be continued every night. In the morning it should be washed off carefully with castile soap.

Dr. Martin: In these cases of eczema, very often one of the most distressing things is intestinal disturbance, and you have that especially at night. Recently, within the past year, I have known of more than one case where the indications for the remedy were plain enough, and the remedy was helping the child; but these nightly disturbances came on, with bad attacks of itching, and the child could not sleep.

We do like to relieve our cases and heal them. There is a preparation called *resinol.* I do know it has helped many a baby, when still giving sulphur, or whatever was indicated.

Dr. Edward M. Gramm: Why do we fail in the cure of skin diseases? Simply because we use resinol and similar preparations. How many homœopathists study their local applications? Some one comes into your office and says, "Here is a sample;

I want you to try it;" and some cases are relieved. Or, he shows a testimonial where Dr. —— has used so-and-so for the relief of such a thing, and he wants you to try it. We should study our external applications as thoroughly as the internal, and not follow this habit of using all the remedies that the patent-medicine men foist on us. I think that while it is true that some of them are useful in a few cases, yet how many of us at any time would go out and shoot a shot-gun into the air in the hope of shooting a bird, and that is what you are doing in using these preparations, and I am opposed to them, unless honest formulas are given with them. They say that such a medicine is composed of something found in India or Africa, and something that the Indians have discovered, and that these ingredients are mixed together by a peculiar process only capable of being performed in "our laboratory."

Dr. W. H. H. Bull: Concerning the use of soaps, I think that most mothers and nurses do too much washing, use too much soap. Now, we are speaking of the removal of these crusts. I think, if we were to take a preparation of oil, the most elegant of which is liquid albolene, to my idea, and to thoroughly lubricate these parts and wipe them off with soft cloths, we can remove these irritating substances without producing irritation. Now, if we use a soap which will take hold of an oil, it must be a soap which will have an excess of alkali in it. The best preparation of a neutral soap is castile, which is a composition of soda and olive oil, unfortunately not found in its purity in this country. Now, if we were sure that we could use a neutral soap upon these crusts, you would remove them without irritation; but whenever we attempt to remove oil with soap, it is absolutely necessary to have a soap which has an excess of alkali sufficient to cause a neutral substance or compound upon the surface. Now, while we have the soap in contact with the oil we are having a condition which is non-irritating, providing this substance remains neutral, but as soon as we get the oil removed we are using in contact with delicate skin a soap which has an excess of alkali. We finish the process by putting oil on the surface, after we have gone through with this oiling process.

I think if we use such a preparation, for instance, and a very clean one is this liquid albolene, we will not find it necessary to do so much washing, and we will not have this irritating condition to contend with. I wish to emphasize the fact that we should be very careful about the soap we use, and we should, after the process, thoroughly lubricate the parts with oil.

INFANTILE DIARRHŒA.

THEODORE P. GITTENS, M.D., PHILADELPHIA.

So high is the mortality-rate and so prevalent the disease in hot weather, I feel that a brief reference to the diarrhœic ailments of the infantile intestinal tract may not be out of place at this time, and a discussion of the merits of our remedies and the respective modes of treatment may be of interest to all of us who treat these cases.

Of all the diseases we are called upon to combat, none has a more formidable history, as to disastrous results, than the diarrhœas affecting the infantile bowel, be it a primary affection or resulting from some remote lesion. No matter what part of the intestines is affected, the result is practically the same—a prostration so intense in severity that without prompt and radical relief, the weak little organism succumbs to the malignant grasp of the disease, and a fatal termination of the disorder follows.

Diarrhœa consists of a too-frequent evacuation of the bowel-contents, in which changes, more or less characteristic, have taken place.

Several forms of infantile diarrhœa are spoken of and classified by various authors, but it seems to me that for practical, clinical purposes—*i.e.*, the cure of the case—the various forms may be considered as different degrees of intensity of the same disorder, from the simple febrile diarrhœa to the death-dealing cholera infantum.

The great predisposing causative elements are heat, unwhole-

some diet, and bad hygienic surroundings, such as are found in the poor districts of the confines of a large city, where hordes of poor little weaklings are cooped up together, with seeming disregard of the consequences, and where the thought is suggested: "The survival of the fittest."

When we see the ravages made by diarrhœic complaints among the babes in the families of the rich, we must look with horror upon the devastating effect in the homes of the poor.

The worst cases of infantile diarrhœa are met with in the months of July and August, babes six to eighteen months old being most commonly affected. The time of year is due to the heat experienced at that time. The susceptibility of the child at this particular age may be accounted for in several ways. The breast-milk may have been taken away, owing, perhaps, to lack of secretion, or to changes in the milk, or other food may have been added to the babe's diet, and it causes the trouble. At this time, too, the child is teething, or may have worms, is cross and restless, perhaps, and over-feeding is the result of a desire on the part of the nurse to quiet her charge. In children somewhat older inappropriate food may be the cause of the trouble, such as cakes, potatoes and other starchy food, fruits, sweets and iced drinks, these being largely responsible for the so-called "dyspeptic diarrhœa."

The *exciting* cause of the more severe forms of diarrhœa, at least, being a micro-organism, we can see the havoc played by unhygienic surroundings as a causative factor.

"A healthy stool of a nursing infant, or one upon an exclusive milk diet, varies in color from a pale yellow to a deep orange; it is smooth, homogeneous and of a butter-like consistency, acid in reaction, of a slightly sour, but not disagreeable odor." (Holt.)

The evacuations occur twice a day, usually. In diarrhœa the number increases sometimes to a score in a few hours. Liquefaction is the main change, and the stool loses its homogeneous quality; undigested particles of food, mucus or blood may be present in it, while the color may be green, brown, yellow, white, red or black. It may be inodorous or horribly offensive, and contains bacteria.

Not only is there a change in the stool, but the accompanying symptoms may be of alarming proportions. Vomiting is one of the prominent symptoms in the severer forms. The temperature may ascend to a high point, and the pulse be correspondingly high and weak. Intense prostration, attended by loss of flesh, is met with, and the whole appearance presented by the little sufferer is one of utter helplessness and anxiety.

To treat these conditions we must study them intelligently; the relationship of cause and effect must be borne in mind. The first must be prevented or removed to obliterate the last. In no other class of diseases is the "ounce of prevention" worth more than in these cases, and prophylaxis here means dietetic and hygienic precautions.

Hygiene is medicinal antisepsis, and it yields good results; as related to our subject, it is indispensable.

The child *must* be kept clean. Frequent bathing should be indulged in; diapers removed and cleansed without unnecessary delay; fresh, pure air obtained, if possible, by removal to seashore or mountains. If this cannot be accomplished, have the child kept in the open air in its coach most of the time. Let the clothing be as light as possible; be watchful, however, that the surface be not chilled during sudden changes of temperature. Do not allow the babe to have soiled hands and face; keep the coach or crib dry and sweet, and keep dirty playthings from the child's mouth.

Particularly keep the whole nursing apparatus immaculate, be it a natural or an artificial one. The mother should cleanse her breast both before and after each nursing, and likewise the mouth and hands of the babe. Nursing-bottles should be rinsed in clear, cold water, and cleansed with boiling soda and water. Cotton should be used for stoppers while the rubber nipples are immersed in a solution of borax and rinsed in clear boiled water before using.

Educate the mother to an understanding of the importance of these measures; let her know just what it means to her, and a good result will be her reward.

Infant feeding is in itself a subject of immense magnitude. Volumes have been written upon it, and favorite formulæ, based

upon accurate scientific investigation, established. It is not within the scope of this paper to treat the subject analytically; only a hint of the principle to be applied can be given. First, then, hold fast to the breast-milk as long as possible, and allow no weaning in summer except for imperative reasons. If insufficient in quantity, the quality remaining good, or even fair, make up the deficiency with other food, while retaining all that can be obtained from the mother. Breast-milk failing, select that substitute which most accurately meets the needs of the child, and which can only be found out by individual experimentation. Sterilized cow's milk, modified cow's milk, and the various infant foods, variously prepared, each have a place in the successful dieting of infants in health and disease.

To personal experience, to the experience of our colleagues, and to the writings of experts on this subject, must we look for help in the matter of infant feeding. Let the quality of food be unquestioned; the quantity neither too little nor too much. Remember, too, that thirst that should be quenched with cool boiled water is not appeased by food, and that there is a time when milk in any form is absolutely harmful—when we must resort to rice, barley, egg or toast-water, wine-whey, champagne, liquid peptonoids, etc., until we pass a particularly critical time.

Allopathically, the infantile diarrhœas are usually treated by first causing a complete evacuation of the bowels by use of castor-oil or calomel, or by irrigation, and then arresting peristaltic action by the administration of opium, and relying upon diet and hygiene for the rest. In many cases of the "dyspeptic" diarrhœa irrigation is excellent practice, and should be accomplished by the use of a tepid saline solution through a large-sized catheter, a quantity sufficient to insure clearness of the return stream being used.

When necessary at all, the great point to be accomplished by irrigation is injection into the small intestine. This can usually be done as the infantile ileo-cœcal valve offers but slight resistance to the passage of the fluid used in the majority of cases.

As to *medicinal treatment*, we are so far in advance of our

friends of the old school that we are in danger of being overwhelmed by the wealth of remedies at our command.

Bell has filled a small volume with remedies and their indications for use in diarrhœas.

Lilienthal mentions 122; Cowperthwaite gives indications for more than threescore; Jahr, Fisher, Goodno, Tooker and others are replete with well-defined indications for those most frequently required. I refer you to these authorities for guidance in difficult cases, and will refrain from more than passing mention of a few of the remedies most frequently indicated, as based upon personal experience and culled from the authors mentioned.

Aconite—Useful only at the very onset of acute attack; creepy chills; coated tongue; headache; restlessness; thirst; nausea; abdominal pain; stools watery, slimy, may contain blood; tenesmus; may be caused by checked perspiration; hot dry skin.

Arsen. Alb.—Stools copious at first, later scanty; green or yellow; thick; bloody; offensive; worse after midnight; burning pain and colic referred to umbilicus and rectum; intense prostration; *thirst*, and *restlessness;* vomiting.

Belladonna—When due to cold; face flushed; stools involuntary; thin; mucous; worse afternoon and evening; great tenesmus; child rolls head from side to side, is cross and may have convulsions.

Bryonia—From cold drinks or indiscreet diet or becoming chilled; stools involuntary while sleeping; undigested; thin; brown or dark-green; worse from motion; in the morning; may be due to repressed eruption.

Chamomilla—During dentition; *irritability; wants to be carried;* after cold; colic; stools green, mucous, slimy; excoriating; may be caused by checked perspiration.

Dulcamara—Nausea; vomiting; thirsty, stools watery, mixed with undigested food, green or yellow; cutting pains in umbilical region; worse at night; weakness.

Ipecac—Nausea and vomiting; stools very green; *fermented;* pale face; *blueness around the eyes;* colicky pains; prostration; child restless and tosses about.

Iris Vers—Vomiting of bile or *sour fluid;* rumbling in intestine; stool watery; greenish; fœtid flatus.

Mercurius—Stools *slimy; mucous; bloody;* intense tenesmus; colicky pains; ineffectual *urging;* sour-smelling perspiration; nausea; worse at night.

Pulsatilla—Deranged stomach; variability in character of stools; colic; worse at night; child with general puls. characteristics.

Podophyllin—Painless; green or yellow gushing stools; worse in the morning; prolapsus ani.

Rheum—Frothy, sour, slimy stool, preceded by colic; irritability; *child smells very sour.*

Sulphur—When other remedies fail; odor of stool clings to child; involuntary, watery, excoriating evacuations; *much worse in the morning.*

Veratrum Alb.—Constant vomiting; sudden onset and great prostration; clammy perspiration; colic; intense thirst; suppressed urination.

These are some of the remedies most often called for, and the value of which has been well borne out by experience. We must not, however, forget that a remedy seldom used may be the one and the *only* one, capable of curing a specified case, as based upon its homœopathic application.

SOME THOUGHTS ON MILK AS A FOOD FOR INFANTS.

T. E. PARKER, M.D., WOODBURY, N. J.

It has been said there is nothing new under the sun. Before I am through you may think there is nothing new in this paper. My apology is that some subjects very important to physicians are overlooked from their very familiarity, and some very necessary points do not receive proper attention, particularly in Society papers.

In our every-day experience, what annoys or disgusts us

more than the way the infant, he who in the fulness of time is expected to make a full-fledged healthy adult, is fed and cared for?

One of the highest aims of the medical art, and one in which the physician must have the co-operation of parent and nurse, is the selection, preparation and administration of the infant's food, that he may be preserved from the perils of the early hours of his existence, and be given strength to resist the attacks that will inevitably be made upon his development.

For one to possess those inalienable rights, life, liberty and the pursuit of happiness, he must have proper management in infancy. He must be unhindered in his efforts to breathe, grow and live. Nothing must be done to retard his proper development nor in any way embarrass it.

It is the proper or improper food of the very young infant which makes or mars his life, as well as succeeding generations. One little mistake will produce a lifetime of misery.

Who is there who has not had some acquaintance with an old dyspeptic? What more objectionable person can there be to live with?—a half-sick invalid, who sees no pleasure in living, and intends to allow no one else to have any pleasure either. He is too sick to live, but not sick enough to die. His temper is destroyed and soul apparently lost—all these troubles possibly produced by some little error in the nursery. What a responsibility rests upon us! Have we succeeded in meeting it? Has the proper food, other than nature has prepared, been found?

The multiplicity of artificial foods would seem to preclude this idea. Each claims perfection, but the ideal certainly has not been reached.

Human milk, in some instances, has received just condemnation, the mother, either from constitutional derangement or faulty living, having been unable to secrete a fluid for her offspring.

Affluence or poverty, country or city life, are sometimes controlling influences.

Nature has designed that the young of all mammals shall be fed upon animal food; never vegetable.

We cannot improve upon nature's mechanism, but it must not be tampered with; the mother must live in accordance to nature's laws.

The mammary gland, in its normal and perfect state, is a beautiful piece of mechanism, constructed for the secretion of an animal food. When this sensitive machine is out of gear, even in a slight degree, the consequences to the young consumer are disastrous. The breasts are not storehouses, but elaborators and producers. The product is made within the walls and produced on demand. It consists of sugar, fat, and the nitrogenous ingredients, or the proteids, mixed with water and salts from the blood. The nature of this product is easily changed by outside influences, such as changes in atmosphere, the emotions, fatigue, sickness, etc.

The gland also adapts itself to the demand of the consumer, producing a smaller or greater supply at shorter or longer intervals, according to the age and needs of the child. Improper and irregular intervals change the quality of the milk, longer intervals lessen the solid constituents, while shorter ones increase them. Too long intervals between nursing produce a food too diluted, while too short intervals produce one too concentrated.

The gland, while performing its normal function, is simply a secreting organ; the constituents of its product are not eliminated from the blood, but manufactured within the gland.

During the interval or pause the cells of the gland are growing, and a very small amount of solids is secreted, and a proportionately large amount of water, while the irritation of nursing causes increased activity of the milk-cells, with an increase of the solids and a lessening of the water. Therefore it is found that the first part of the milk contains less fat than the middle or last part. In milkings of two-hour intervals, the fore-milk contains more fat that the fore-milk of twelve-hour intervals; the strippings, or last part of the milkings, just the reverse.

The exact analysis of milk varies in different individuals and at different times in the same individual; but nature has adapted the child to the mother, and the babe cannot be promiscuously changed from the mother's milk to that of another

woman. This variation in individuals accounts for the differing analyses we have of human milk.

A mother, to properly and satisfactorily nurse her infant, should be strong and healthy, of an even, happy temperament. Moreover, she should be desirous of nursing her child, and should be willing to devote herself to it as a special duty, and should be willing to regulate her diet, exercise and sleep according to rules that will best fit her for the task.

A cow, to properly produce milk for infants' use, should be healthy, of good milk-producing stock, fed on clean, wholesome food, housed in a clean, well-ventilated stable, and be regularly and properly milked.

The product of the mammary gland is essentially the same in all mammals; the elements are the same, but differ slightly in proportion.

In children, in addition to the materials needed for repair of waste, are those required for the structure and development of new parts; hence a child requires certain materials in larger proportion than an adult.

The essential elements of milk for structural development and food are nitrogens, hydrocarbons or fats, carbohydrates or starch and sugar, the mineral elements and water. The nitrogenous elements or proteids are used for the structure of brain, nerve, muscle and gland. Nitrogen is essential to every vital process; deprived of it, every function languishes; without it, the child's growth is interrupted, its vigor and vitality is lost, it is pallid and feeble. Fat, like the proteids, enters into every cell. Its chief office is to serve as fuel, to keep up the heat of the body. Children fed with food deficient in fat are slow in growth, bony structures suffer, and rickets results.

If fat is lessened, digestion and nutrition suffer, and there is a tendency to constipation; if there is too much fat, there is another disturbance and a tendency to diarrhœa. Fat is a most vital necessity in infants' food. Artificial foods generally contain too little. The sugars are necessary to the growth, but not in the same proportion as proteids and fats. Phosphate of lime, the most important mineral element, is necessary to every

tissue. Water is essential for the solution and carriage of the peptones as well as for other functions.

Milk contains all these elements, and hence is the food *par excellence* for the babe.

Mother's milk does not contain them in the same proportion as cow's, hence the skill and care needed in modifying cow's milk.

In order to keep an adult body in perfect health the elements of the food should be, to every 100 parts: Proteids, 5; fats, 3; carbohydrates, 15; salts or the mineral elements, 1, and water, 76. Human milk, which is the type for infants' food, should contain, according to Luff's analysis, proteids, 2.35; fats, 2.41; sugars, 6.39; salts, .34; water, 88.51. According to Rotch's analysis it should contain: Proteids, 1.50; fat, 4; sugar, 7; salts, 15; water, 87.35. The analysis of cow's milk is: Proteids, 4; fat, 4; sugar, 4.50; salts, .75; water, 86.75. The proportion of fat to sugar in infants' food should be 1 to 2, while an adult requires it in the proportion of 1 to 9. The proportion of proteids to sugar in infants' food should be 1 to 3; for an adult, 1 to 5.

In every dietary for the adult there is a certain amount of fresh food; the omission of this makes the consumer liable to scurvy. Children fed on fresh milk are not subject to this tendency; hence milk contains some element which makes it antiscorbutic. This element is absent in all farinaceous foods.

The human breast adapts itself to the growth and needs of the infant. At first there is only one pint secreted in twenty-four hours, supplying the child with 1 to 1½ ounces at intervals of every two hours. As the child grows older the amount increases to as much as three pints or more in twenty-four hours. In artificial feeding there is no such guide for the quantity; the needs of the child have to be found out. On the other hand, in artificial feeding the element of interval does not influence the chemical composition of the food.

Breast-milk is always the same, the infant receiving the same food at each nursing. In artificial feeding it is unwise to alternate milk-broths and farinaceous foods. If the child needs anything in addition to the regular milk, these additions must

be made at the same time, combined in proper proportion and given together.

During the very early months the child has little power to digest starch, as the diastatic ferment either from the parotid gland or pancreas is not secreted until after the eruption of the teeth. In the natural food-milk there is no starch. The carbohydrate needed is lactine or sugar of milk.

Milk-sugar in milk that is not heated will set up a lactic-acid fermentation, while cane-sugar will set up alcoholic fermentation. Cane-sugar is not assimilated, but acts as a reserve, whereas milk-sugar is utilized in the economy of nutrition. Therefore, on physiological as well as on bacteriological grounds, we are justified in using the same animal sugar as is found in the infant's natural food.

Mother's-milk is alkaline and sterile, and contains, as it comes from the breast, that health-giving principle, vitality. Scientific knowledge has fathomed many a depth, but it cannot give to artificial food that vital element, life. We have not, as yet, been able to follow nature exactly, and therefore have not yet obtained an ideal method of substitute-feeding. Cow's milk is slightly acid, grows more so, and contains innumerable bacteria; these bacteria are mostly found in the first part of the milking—the act of milking washing out those collected in the mouth of nipple or teat during the interval of milking.

The casein of human milk has a nuclein and peranuclein which are readily assimilable, whereas in the cow's milk the nucleins are partly insoluble and indigestible. The casein of human milk is thrown down in extremely minute flocculent granules readily dissolved by additional fluid, while the casein of cow's milk is cast down in great masses, and is not dissolved by the addition of more fluid. The reason that cow's milk is so much more difficult of digestion than human milk is because of this indigestible casein.

One part water to two of milk would make an analytical preparation similar to human milk, but a child is not able to digest it unless it contains two parts water to one of milk. In this proportion the fat and sugar are far below the necessary requirement. According to Luff, the analysis of two parts of

water to one of milk will be: Proteids, 1.46; fat, 1.67; sugar, 1.47, instead of normal milk, according to the same authority, which is: Proteids, 2.35; fat, 2.41; sugar, 6.39; or, according to Rotch, Proteids, 1.50; fat, 4.00; sugar, 7. The fat and sugar alone are below the standard. To bring these two elements up add cream and sugar. Cheadle, an English authority, recommends bringing up the proteids by adding raw meat-juice and breaking up the hard casein by the addition of barley-water.

In preparing a meal for adults whose stomachs are thoroughly developed, and in many cases tough enough to digest anything that enters them, the cook spends hours in carefully cooking and preparing the meal. How much time does the usual attendant spend in getting the food ready for the little one, whose stomach and whole constitution is in a frail, undeveloped condition? Most all adult food is well cooked, or, in other words, sterilized. Mother's milk is sterile; cow's milk, in certain conditions, is teeming with bacteria. No food is properly ready for the baby until it is previously made sterile. Bacteria will not thrive in a temperature below 60° F. nor in that above 167° F., except the bacteria of tuberculosis and anthrax. These two germs require a temperature of 212° to destroy them. Bacteria hasten the acid fermentation of milk, hence their growth is retarded in a temperature below 60°.

Cheadle recommends the boiling of all milk to sterilize it. The scum, he goes on to say, that rises to the surface should be skimmed off to render the milk more easily digested, by reducing the amount of hard curds, as these curds are composed of hardened casein, and the indigestible casein is thereby reduced.

American authors believe that boiling radically changes the constituent parts of the proteids, and produces a food unfitted for the use of the infant.

If sterilization is the destruction of living germs, a temperature less than the boiling will answer. The method I prefer is that of Professor Rotch of Boston, which is to place the modified milk in bottles, enough in each bottle for one feeding, set the bottles in a pan of cold water, bring the water to a temperature of 170°, then remove all from the fire, allowing the pan containing the bottles to remain covered for half an hour.

The temperature at the end of the half hour will generally be as high as 167°, which is sufficient to kill the majority of germ-life.

Rotch also gives as a safe formula for the average babe 2 ounces milk, 3 ounces cream, 10 ounces water, 6¾ drachms milk-sugar, steam twenty minutes, then add 1 ounce lime-water. These proportions should be changed to conform to the age and needs of the child. Lime-water is not always needed, but cow's milk is acid and it must be made neutral or alkaline similar to mother's milk. The bicarbonate of soda can be used instead of lime-water. Cow's milk does not always give satisfaction, the milk as cow's milk is condemned. We change to some artificial food which is totally dissimilar to nature's food, a food probably made from cereals, dried milk or what not, made to keep, not to nourish. The fault may not have been in the milk as milk, but in the management of the cows, the care of the milk before reaching the consumer, or in the modification and preparation of the milk.

If we can obtain milk from good healthy cows whose milk analysis is neither too rich nor too poor—cows that are kept and cared for by an intelligent, honest dairyman; that are fed in summer on good upland pasture, where there is pure water to drink and plenty of shade; that in winter are kept in clean, well-ventilated and warm stables, that are carefully and thoughtfully groomed, fed on good milk-producing food, with the milk cleanly drawn and cared for; in short, cows and milk treated intelligently, if not scientifically—we may find a milk not far from the ideal in many cases. All this care on the part of the dairyman may be rendered of no avail by the slightest neglect on the part of the person who has the oversight of the milk for the child. The milk should be kept in a cool, clean place, should be properly modified and prepared in bottles that have been thoroughly cleansed and aired, and having perfectly sweet nipples. It is also important to feed the child at regular intervals, and with the proper quantity of food.

While practicing in New Hampshire we were confronted with cows fed upon the mountain sides which were covered with a coarse grass that in dry seasons was a prolific source of

trouble. In New Jersey I find an equally objectionable feature in those fed in low marshes.

In the counties of Pennsylvania around Philadelphia, the ones I am most familiar with, we find many pastures along creeks, containing buttercups, iron and other noxious weeds, which are another source of trouble.

Even if the mammary gland does not excrete from the blood the constituents of the food partaken, the kind of feed does have a wonderful controlling effect upon the product obtained, and we are accordingly confronted with milk, either suitable or unsuitable for the babe.

During the dreaded dog-days we have another obstacle in the shape of dry weather, with poor crops, hot days, and plenty of flies to annoy the cow. Then we find a lessening of the milk produced, and, judging from butter-makers, a lessening of the fat-globules. During a wet spell we have a luxuriant growth of weeds to annoy us.

When we can educate the milk-producer, the milk-dealer, the milk-modifier and the milk-feeder to the better observance of correct and proper rules, we shall obtain a food from our native and domestic cow better than we find to-day.

Who can expect success from feeding a babe upon any and every kind of milk, from a sour, fly-infested bottle, when we know that lactic acid sets up in the bowels a fermentation, and this fermentation is a good soil for the germ that we urge the poor little helpless innocent to partake of, or who, else, succumbs to the pangs of hunger?

Kind Providence is merciful, but when he endows and furnishes us with brains he intends us to use them, and not insult him by going contrary to his laws and the laws of common sense which he has given us.

DISCUSSION.

Dr. B. F. Betts: *Mr. Chairman and Fellow-Members*—This subject is a very important one, as we all recognize, and is a most appropriate subject for consideration from the Bureau of Pædology, and, perhaps, is quite as exhaustive and contains as much information as we would desire, yet there are some points

that I wish especially to comment upon. We all know, as is stated in the paper, that a certain proportion of infants fail to assimilate cow's milk, and are deprived of the mother's breast-milk, and we are naturally driven to the substitution of some preparation. Instead of going directly to articles upon the market intended as substitutes for mother's milk when cow's milk will not agree, I have adopted the practice of always trying the efficacy of cream—diluted cream—and can commend it very highly for young children. There are certain preparations for children after attaining the age of five or six months; but in very early infancy it is attended with considerable risk to employ these articles, and, in such cases, cream, diluted with five times its volume of sterilized water, and very little salt and sugar added, has answered a very good purpose; but I recognize the importance of having a standard for cream. If you direct the mother to use cream alone, without specifying exactly how she should fix this cream, you will often be disappointed. If you can get milk from a good dairy, it is much to be preferred to that obtained from one cow. Get the milk from the whole milk of several cows—*i.e.*, mixed—and, allowing a sample of this to stand for five hours, obtain the cream in that way, if the milk is in a suitable temperature (that is an important point, too; the milk should be kept at a proper temperature, not in a very warm place), and after the expiration of five hours get a sample of the cream from the milk and dilute it with five times the amount of water, and you will have a pretty good article of diet for young children for a little while. It will not answer as a food for an indefinite length of time, not more than a few weeks, until the child is improved by medical treatment, and, on account of its growth, developed so that it is able to take other articles of diet.

Now, in this paper there is mentioned the importance of cooking cow's milk, or submitting it to a temperature of 167°, which we all know at this time to be much better than boiling milk or sterilizing. We know that the old process of sterilizing deprives milk of its nutritive qualities; and yet we must sterilize; and you can do this by submitting it to a temperature of 167°, as is mentioned in the paper. But, whilst we are

sterilizing the milk and the water that is added to the milk for artificially fed children, we are very apt to overlook the necessity for sterilization of the source of supply for children who get the breast-milk; in other words, keeping the nipples clean, and sterilizing and keeping clean the child's mouth, as far as possible, before it is placed to the nipple. These are important points to consider in the earliest period of infancy. The cleansing of the nipple invariably before the child is placed to the breast, and the cleansing of the child's mouth, will avoid mastitis, and, in consequence, an infection of the milk and a defective milk supply, and will very often avoid the painful and quite serious diseases of the mouth that develop in early infancy.

I cannot but commend in the highest terms the recommendation to hold the casein of cow's milk in suspension by barley water in those cases where the child fails to be able to digest it because of defective digestion—some impairment of the digestion, very often. *Thuja* and *calcarea* are some of the medicines suggested that will cure this difficulty; but there are cases that baffle our efforts; the child still vomits the milk that has been curdled by the rapid influence of the digestive ferments on the casein, forming a hard curd that the child has to vomit. In such case the addition of barley or rice water is to be recommended as the most efficient plan.

Dr. Raue: I think when we are feeding a child we should know what we are giving it; know the exact percentage of principles in the food. Dr. Parker has very ably pointed out the indications which suggest a division of the fat or proteids or carbohydrate in food; and if we start a child on milk having a certain percentage, we can judge by the child's progress, weight, development, and the state of the digestive tract, what is at fault; we know the child is getting too much or too little proteids, excessive fat or too little. By following out this exact method we will be more successful in rearing infants, and we will have case after case upon which we can fall back to formulate the tables on which we can judge of the necessity for proteids, etc. If a child does not get enough proteids it will not gain weight rapidly, and will not be able to resist the ordinary

diseases. Where we cannot get access to a milk laboratory, we can easily make a milk ourselves. I have a method which I use in the Woman's Homœopathic Hospital: take skimmed milk which contains 4 per cent. proteids and centrifugal cream, counting that as 20 per cent. of fat, and then we add sugar, milk and lime water to the total quantity. It is a very simple problem to estimate the percentages.

Dr. Joseph E. Jones: The idea of feeding altogether on cream is a good one, but you can only use it for a very short time, and your child will sicken on it and the mother will reject it in spite of the fact of having some practical way of using it. There is just one point here. The nearest approach to the natural mother's milk is cow's milk; but in order to make cow's milk acceptable to the stomach, so that it will not be rejected in the coagulation of casein, we must break that casein up, by which the curd shall not rest in the stomach. How can we do that? It is very well to say that we must know enough to judge between proteids and the other ingredients of milk; but how are we going to accomplish it?

I have found no way more useful than to take a little starch and mix it with ordinary cow's milk which is fresh, morning and evening, and adding well-cooked corn starch to that in water; then add cow's milk, moderately heated, and the addition of a certain amount of that corn starch will break up all the curd of the cow's milk and give you an elegant result, enabling the stomach to digest cow's milk. You will find your children will do better and the mother will carry it out.

Dr. Korndœrfer: I think we must individualize. My experience with the little ones has been somewhat extensive, both in my own family and practice. One of my little folks I found could not take hot food—milk food—it did not matter how it was prepared or in what proportion; it was vomited every time; and yet if the food was put on ice the child would take it, and would be nourished by it and give less trouble.

My usual rule is hot milk, but in the average cases I take two quarts of milk and let it stand for a few hours, then dilute it with water, according to the needs of the child—one-half, two-thirds or three-fourths water. I usually add a little salt, and

prefer no sugar in the milk. The average child will take milk more readily with a little salt, and a little salt will do more good. We all know it is absolutely impossible—so the cooks tell me—to make junket with milk or from milk that has had any salt in it; they say that salt will absolutely prevent the curd. The results with children seem to confirm this; they never make junket if salt is added to it. For many years past I have added a little salt to children's food. I use the so-called cow's milk diluted with water, and add a little salt, and then use farinaceous food in one way or another.

Dr. Miller: It seems to me that every effort is being made to see how much you can feed the baby. I believe the thing for you to do is to see how little you can feed it; not to devise new foods or new ways of feeding a child because it does not seem to be quite well. The thing is to let that young one alone until it gets better. If a young child can take a food right along up to a certain period and then get sick, I do not see how you lay that to food; but if you stop that child's food, teach the mother what that child needs is a little bit of *fasting*, then go back to the identical food, you will not need to bother your brains so much about foods, addition of salt, etc. I think there are some children to whom milk in any shape is a poison. I have seen children who would vomit right along, and continue to be fed on milk until they could not take it any more and become sick. And if you will follow these directions, not half of the children will go out over the hill to the cemetery that now go.

CONVULSIONS IN CHILDREN.

D. C. KLINE, M.D., READING.

If our knowledge of pædology corresponded with my interest in these dear little sufferers, there would be no need for a paper on this or any similar subject; but so long as we continue to plod along on this earth, endeavoring to minister to suffering humanity, we must continue to study the needs of these little tots.

It would not appear proper or profitable in this brief paper to attempt any elaborate description of all relations that may occur in the category of convulsions.

The conditions are complicated and differ greatly from each other.

Convulsions cannot be viewed from any single standpoint, and do not represent any individual form of disease, but rather as an expression of various physical conditions.

Nevertheless, while the original and exciting cause may vary, and the starting-point may be in various parts of the body, the immediate cause must be due to brain irritation.

We may have congestion of the brain or anæmia, but severe nerve irritation is always found to exist in convulsions, whether it be direct or from a remote part of the body, and thus reflex through the sympathetic nervous system.

We may thus have convulsions occurring in children from intestinal irritation, whooping-cough, pneumonia, at the beginning of or during the eruptive fevers, during dentition, from intestinal parasites, at the beginning of serious nervous diseases, meningitis, violent emotions, burns, scalds or accidents. Injury to the head during labor or malformation of the heart may occasion convulsions in early infantile life.

Hence we should recognize convulsions as a symptom, and not as a disease *per se*, and regard the certificate signed "Convulsions" as on a par with one of "Heart Failure" or "Dropsy."

Children of a weakly constitution will naturally be more liable to convulsive attacks whenever any special exciting cause appears; for instance, rachitic children, children with weak digestive organs, nervous and excitable children, particularly boys with elongated or adherent prepuce, and girls with adherent and inflamed clitoris.

It is claimed by some authors that an otherwise healthy child cannot have convulsions from a reflex cause alone, but how very few thoroughly healthy children do we find.

The symptoms of a convulsive attack are scarcely worthy of mention here, but will be found to vary greatly. The immediate attack is frequently preceded by an irritable restlessness, but ofttimes the attack is ushered in suddenly by a spasm of

the glottis and rolling of the eyes upward; twitching and spasms of facial muscles, which may be only on one side, thus twisting or drawing the head, with more or less force, to one side; more or less cyanotic appearance of the face, with frothing from the mouth and nose; the jaws are closed or drawn across each other by the spasms of the pterygoid muscles, causing gnashing of the teeth. Thus we have a distorted appearance of the face, which is distressing in the extreme for friends to see.

The fingers are usually strongly flexed.

The muscles of the entire body may be more or less involved.

The duration of a convulsive attack may vary from a few seconds to several hours, or there may be frequent repetitions, with more or less complete coma, not only during the attack, but likewise during the intervals.

The results of a convulsive seizure will depend largely upon the exciting cause, but it rarely proves fatal.

A child rarely dies during a convulsion.

The most frequent exciting cause of a sudden convulsive seizure is some form of intestinal irritation, indigestion or constipation; and therefore, when called to a child with convulsions, we may hurriedly look over the case, making inquiries of those around, and if the spasms are still present, seeing that, in all probability, the cause is a reflex one, why may not relief be given by reflex irritation, and, therefore, accepting Dr. Pratt's suggestion, hurriedly dilate the rectal sphincters, and thereby stimulate respirations?

If, however, the spasms have subsided and consciousness is regained, let us, if possible, prevent a recurrence by hastily but thoroughly flushing the bowel, and repeating, if necessary, with decidedly hot water.

Parents should be positively certain that the babe's bowels move daily; and where we apprehend convulsions in a child we should instruct those in charge to proceed to empty the bowels upon the first signs of convulsions. Let this be done even though the bowels have apparently moved freely.

The hot-flushing not only gives relief by removing the foul fæcal matter, but by stimulating and equalizing the circulation.

During the convulsive period other efforts should be made to

afford relief; the feet may be placed in hot water and cold compresses applied to the head.

Massage to the abdomen, occasionally hot baths, hot or cold compresses to the spine or chloroform inhalations are all useful; but the rectal dilatation and hot-flushing of the colon are the two points I wish especially to emphasize.

During the intervals of convulsions the child should be kept cool and quiet—if possible, in the open air.

We must not, however, neglect the indicated remedy, but give it promptly—if necessary even between the lips or under the tongue, or possibly even by subcutaneous injections.

Bella., chamo., verat v., hyoscy., or any remedy that is seemingly indicated, may be given.

A Case.—At the noon hour, July 7th of this season, while driving my rounds, I was hastily summoned to see a child in convulsions.

On entering the house I was directed up stairs, where I found a babe lying on a bed, the grandmother bathing the feet in warm water, the grandfather saturating the child's head (*and the bed*) with cold water, while the great-grandmother and the mother were looking on.

The child was limp and helpless; pupils did not respond to light or touch.

I began to inquire as to the cause, and at once dipped my hands in a basin of water, and reaching for the little rectum, found the sphincters rigidly contracted, but pushed my left index finger carefully into and dilated it. Immediately there was a gasp, followed by a second with a cry, and within two minutes consciousness was regained, to the surprise and astonishment of all.

I immediately proceeded with a hot enema, although the family insisted the bowels had moved well the day previous.

The water brought away a free movement containing cherry-stones, undigested berries and fœcal matter.

I then learned the mother was still nursing the babe of 21 months, and she herself not strong. The child had been out in the heat all morning.

Bella. and nux v. were given, and the child made a prompt recovery without any recurrence of the convulsions.

REPORT OF THE SECTION OF SURGERY.

The Treatment of Abscess of the Superficial Tissues, by D. P. Maddux, M.D.
The Cause and Prevention of Urethral Strictures, by L. T. Ashcraft, M.D.
The Ambulant Treatment of Fistula in Ano, by F. W. Brierly, M.D.
A Plea for Anæsthesia, by J. W. Hassler, M.D.
Operative Treatment of Wandering Spleen, by Walter Strong, M.D.
Helps in Circumcision, by L. W. Thompson, M.D.
Sprains—Their Complications and Treatment, by G. A. Van Lennep, M.D.

THE TREATMENT OF ABSCESS OF SUPERFICIAL TISSUES.

D. P. MADDUX, M.D., CHESTER.

It might seem that I should offer an apology, or at least an explanation, in presenting to this Society a paper upon a subject apparently so trivial, especially when I must preface the paper by a statement, which you will probably verify later, that I have little or nothing to offer but what you are already familiar with.

Assuming, however, that you are all familiar with the correct and most successful methods of treating abscess, a fairly extended observation has led me to believe that in actual practice many yet follow the methods of what Pruden calls the "Pre-Bacterian Epoch."

My excuse for writing upon this subject is, that the treatment of abscess probably furnishes more surgical cases to the general practice than any other single surgical condition; and if we consider its primary treatment as an operation, as it generally should be, it furnishes to the general practitioner more operations than all other surgical cases combined. For obvious reasons I cannot, in this paper, consider abscess affecting the organs in the interior of the body, or those affecting but few of the deeper tissues. I wish especially to consider methods of

treatment of local inflammation and pus-collection in the subcutaneous and muscular tissues.

Abscess was defined, when I was at college, as "A circumscribed collection of pus," circumscribed by the time-honored "pyogenic membrane." For the present purposes it might be considered as a localized area of excessive bacterial development containing, in advanced stage, the products of bacterial life and the results of bacterial death, accompanied by more or less tissue necrosis.

I regard as a needless task the effort to demonstrate the causal relationship of bacteria to abscess. The invariable exhibition of their presence when adequate search has been made, the constant results of inoculation both in the laboratory and outside of it, have demonstrated bacteria to be the *sine qua non* of suppuration.

The problem, then, that presents itself is, how to destroy their power of further injury, and to overcome their effects in the easiest, safest and promptest manner.

It is manifest that an early recognition of the presence of pus is of the utmost importance; but before the formation of free pus, before the devitalization of tissues and the presence of what we term pus corpuscles, we have present in superabundance these identical bodies in the shape of leucocytes, these leucocytes having fled from their home in the capillaries to suppress the riot of disorder in the surrounding tissues. Now, can we cure, or rather abort, abscess in this stage, when the severity of the heat, redness, pain and swelling indicate that suppuration is inevitable, unless prompt and efficient methods are employed? I mean when there have been no rigors, when there is no softening, no pointing, no boggy, doughy or fluctuating feeling—when it is hard, tense, and its exact outlines difficult to determine? Frequently we can. Generally, in minor cases, we do not see them until they are past this stage. To relieve this condition, first render the surface skin as nearly aseptic as possible. Formerly I scrubbed the parts with a solution of carbolic acid; recently I have been using, with better results and less discomfort to the patient, the antiseptic soap of Parke, Davis & Co., prepared from the formulæ of Dr. McClintock. If there

is very decided sensitiveness I spray with ethel chloride, and rapidly and deeply puncture, sometimes in several places, with either a hypodermic needle or a sharp tenotome. I have in some cases taken several hypodermic needles, after sterilizing or soaking them in a solution of formalin, stuck them into the inflamed area, and permitted them to remain for a few moments, thus relieving the extreme pressure which is largely the cause of pain and its continuance a cause of necrosis.

In most cases it is further desirable to inject some agent to assist in the destruction of the germ. I have used solutions of carbolic acid, bichloride of mercury, boracic acid, iodoform, hydrogen peroxide and formalin, and have obtained the most satisfactory results with the two last mentioned, using H_2O_2 in its full strength, and formalin, 1–100 to 1–500 of the 40 per cent. solution, from a few drops to the contents of a hypodermic, according to the size and location of the abscess. I then apply a large pad of moist bichloride gauze. If the pain should continue in severity, a solution of bichloride may be applied as a hot fomentation; or, if on pendant portions of body, the part may be entirely immersed in the hot solution.

If the method described is applied thoroughly and early, it will in most cases cause prompt relief of pain and a subsidence of the inflammatory process. But there are some patients with uncontrollable or hypersensitive nerves who resist the proper application of this treatment, electing to suffer much more in the aggregate rather than run the risk of lesser pain deliberately inflicted. We meet this class, who almost seem to enjoy the suffering incident to disease, compared to the suspicion of pain incurred in operative procedure, although many patients of a non-excitable temperament have assured me that the pain incurred was less than that they had been continuously suffering previous to the operation.

Threatened suppuration from bruise of soft tissue may sometimes be averted by the application of iodine and olive oil, equal parts; by belladonna ointment; or, if accompanied by abrasion of the skin, by a mixture of iodoform ʒj and boric acid ʒj. I have had several cases where the swelling, heat, pain and redness were promptly relieved by a dry dressing of

europhen. In this preparation, I believe it is the iodine that is the potent factor.

In the treatment of the ordinary acute phlegmonous abscess, an early, deep incision, with moderate, not forceful, flushing of formalin solution, and a carefully applied antiseptic toilet, changed every twenty-four hours, is all that is needed; but I believe that in these cases it is advisable to use the sharp spoon of the irrigating curette, and pack the cavity with glutol. I prefer glutol for a pack in these cases, because one can pack it in with more ease and precision than is possible with the other antiseptic powder. In very small abscess I frequently use the funnel-shaped aural speculum to introduce the glutol into the wound.

The Hilton method of opening abscess has not in my hands been eminently successful; the healing has been more protracted, and the resulting cicatrix, although smaller, has been more depressed.

The purpose of incising an abscess is not alone to make an opening adequate for the immediate drainage of the liquid contents; it should be ample enough to gain free access to the abscess cavity, and sufficiently large to be insured against closure before the deeper tissues are entirely healed.

I want to emphasize, at the risk of tiresome reiteration, that it is our positive duty, in the treatment of all cases of abscess, to exercise all proper precautions to place the parts in as aseptic condition as possible, and personally I know of no way of rendering a septic wound aseptic except through the use of antiseptic measures. The previous presence of pus and sepsis is no warrant for abandoning measures tending to abate them; it is rather an indication for greater care and more complete thoroughness, extending to the surgical cleansing of adjacent surface, as well as to hands, instruments and dressings. Because they may heal without this fuss and bother on our part is not good reason for abandoning measures which lessen danger and promote more rapid healing.

Another caution I do not deem amiss is against the habit of attempting to squeeze out, by the pressure of our fingers, the contents of the abscess cavity. If the cavity is small, put in a

pair of dressing forceps, with closed blades, and open them, letting in, the while, a stream from the irrigator, aided by mopping of absorbent cotton. I believe it is a safe guide for the surgeon, "when in doubt as to the presence of pus"—*cut.* I consider we do our patients a positive injustice when we let them suffer on for the pointing, fluctuating, ripening of an abscess. An abscess is ripe for the knife as soon as pus forms, and it is our business to show the pus a way out; not to idly wait until it almost liberates itself.

Nature is an unrivalled nurse, but she is not always a good surgeon; her resources in the liberation of pus are confined to the pushing, tearing, bursting process—a bungling method compared with a clean incision. An early incision is of value in the prompt relief of suffering; in the shortening of the time of healing, by reason of the lessened tissue necrosis and burrowing; in decreasing the risks of pyæmia and metastatic infection from pus absorption. Early incision need not be so extensive, and the consequent cicatrix and impaired function will be less marked. My own guide in the incision of an abscess is to make the incision nearly correspond with the base-line of the abscess cavity, it being desirable, of course, to incise in the line of the muscle-fibres and in the most dependent portion. Exception, of course, should be made to this, in some cases resulting from superficial cellulitis, where it may be desirable to make two or more incisions. But in diffuse cellulitis the most liberal incisions, extending right through the inflamed area, should be made. The longer an abscess has existed the more the need exists for vigorous curettage, and, where due to the breaking down of a gland, the entire gland should be scooped out, with as many of the affected neighbors as is necessary. I use for this purpose the sharp spoon of the hollow-handled curette, with water running through it. As indicated before, I have a decided preference for a solution of formalin for washing abscess cavity. After curetting and washing I pack glutol into the cavity, cover the part with a layer of iodoform gauze, and apply over this an abundance of cotton, leaving the dressing unchanged for twenty-four hours. At the second dressing, if there is much discharge I again curette, and if there is much

burrowing use a copious insufflation of some antiseptic powder, inserting into the cavities a piece of glass tubing or a soft rubber drainage tube attached to a powder-blower. I prefer for this a mixture of one part iodoform to eight of boric acid; then I introduce a large-sized drainage tube, puncture well, and lay—not pack—a small piece of gauze in the orifice. Unless one is positively certain, in an abscess burrowing between different muscles, that the gauze pack reaches all parts, better results are obtained by covering the parts with antiseptic powder and depending on drainage tubes. I may speak too enthusiastically of this method, as I have not yet used it on many cases, but in several very severe cases, two of which burrowed to the muscular attachment of the femur, the results obtained were highly gratifying.

I am confident that the granulations are often injured by the direct pressure of continuous packing; after an abscess is opened they need pressure from the outside to glue together the parts, and very little continuance of the pressure from the outside, of which they have already had an excess. When the entire abscess cavity is covered with healthy granulations, all slough having disappeared, we can shorten the time of healing and substitute a linear for a depressed scar by drawing together the edges with stitches. I have obtained exact coaptation in this manner two weeks after the incision.

An ideal plan with some cases of chronic abscess, particularly applicable in cases of scrofulous gummata, is the careful dissecting out of an abscess—as one would say, "cystic tumor." In these cases suspicious portions of skin should be fully excised, and a clean wound may be left which unites by first intention.

As a wash for abscess cavities, I believe that formalin solution is superior to any other antiseptic we possess. I use it in strengths of 1–100 to 1–1000. Formalin has none of the albumin-coagulating, instrument-ruining, toxic properties of the chloride of mercury. Carbolic acid, aside from its odor, which to some is sickening, will produce headache, giddiness, and, in some patients with weak heart, positive collapse; and it has an objectionable action on fresh blood-clots, causing an

excessive oozing of an excellent culture-medium. Hydrogen peroxide, and its more powerful relative, hydrozone, have certainly a delightfully prompt effect upon the products of suppuration, but it has been my experience that their effect is transient; they exhibit considerable smarting, and their present cost prohibits their use as flushing agents. The results of formalin are more enduring. It seems to positively destroy and render inert almost all germs; in proper solutions it is non-toxic; it leaves no permanent odor; it does not injure the hands, steel or nickel instruments. It does have the effect of hardening tissues, and if applied to them continuously for more than forty-eight hours, as on moist gauze, it may cause slough. I believe it is but rarely desirable to use it as a gauze dressing. It is not desirable, if the abscess cavity is large, to leave in it any of the formalin solution; in fact, it is desirable to keep any wound as dry as possible, for germs cannot grow without fluid, and positive harm is often done by excessive washing after all need of irrigation has passed away.

If I have omitted reference to the use of poultices in the treatment of abscess, it is because for a dozen years I have found at no time any benefit, relief or use from this microbe incubator which in any way compensated for the pernicious tendencies it created.

The homœopathic therapeutics of the treatment of abscess should be included, to make this a complete paper; but on this score the individual case with its individual characteristics must, of course, be your guide: but while I fully appreciate the value of the proper prescriptions in the prevention of the formation of abscess, and while they doubtless aid in the reduction of the inflammation, I beg of you do not try unaided to open an abscess, and dress it, after it is open, with little pills.

However, this makes no pretense to be a complete paper; it merely gives some of the writer's individual methods, with the hope that if you have better ones you will let us know them.

THE CAUSES AND PREVENTION OF URETHRAL STRICTURE.

L. T. ASHCRAFT, A.M., M.D., PHILADELPHIA.

SINCE stricture of gonorrhœal origin is so frequently treated by the general and special practitioner, it is that variety of which I shall speak. It may be defined as a lessening of urethral dilatability accompanied by structural changes in any or all of the tissues forming its walls.

Looking over the subject in a superficial way we see that it is usually the result of a badly managed acute clap which has become chronic, several factors being responsible. The urethra in advance of the compressor urethra and surrounding the bulb is abundantly supplied with glands and follicles, a favorite site for the inroads of gonococci and other pyogenic organisms. Urinary conditions subject to changes resulting from dietetic errors also predispose to irritate an already congested canal. The tissue changes will perhaps be better understood by quoting Finger of Vienna. The opinions advanced are the results of ante- and post-mortem findings, both macroscopical and microscopical. Hyperæmia, serous swelling and infiltration are revealed by urethroscopy. The epithelium rarely suffers to the extent of erosions, although in some superficial areas are observed. Marked thickenings and whitish discolorations exist. Circumscribed spots on the surface of the sub-epithelial tissue present uneven nodules, which by microscopical examinations prove to be granulations. The openings of the lacunæ of Morgagni are enlarged in some, and in others replaced by milky-white nodules imbedded in the mucosa. Occasionally erosions and papillomata obstruct the field. The most interesting observations, however, are disclosed by microscopic research. The upper layer of the cylindrical cells of the epithelium in most cases undergo mucoid degeneration. The transition cells occupy a larger area than

usual. Pavement epithelium predominates. In the sub-epithelial connective tissue the inflammatory process produces most important changes, consisting of an infiltration of the connective tissue resulting in retracting tissue. In new cases this infiltrate occupies the upper layers of the sub-epithelial connective tissue. Sometimes the cavernous body is involved; in other cases the cellular infiltrate contains new bloodvessels, both of which give the sub-epithelial connective tissues that papillomatous aspect termed granulation tissue. These granulations are flattened by retraction and a callosity results. The lacunæ exhibit changes similar to those found in the mucous membrane, producing in some dilatation of their lumen; in others, if retraction occurs, atrophy results. Where the corpus cavernosum is involved, Littré's glands are the seat of changes amounting sometimes to destruction. The corpus cavernosum is frequently attacked (although in some cases remaining intact) in two ways: first, by the chronic infiltration remaining superficial, entering along the excretory duct and around the bodies of Littré's glands; second, where the chronic infiltration occupies the entire thickness of sub-epithelial periurethral tissue, penetrating the corpus cavernosum, it remains either superficial or occupies its entire width. Where the circumscribed infiltration has undergone retraction, the mucosa and corpus cavernosum are converted into a firm retracting callosity. These deep-spreading callosities are the cause of stricture. To recapitulate: Granulation tissue is the result of long residence of the virus of gonorrhœa in certain areas of the urethra, and by its conversion into cicatricial tissue stricture is formed. Practically, how can we prevent this? The problem logically rests upon the treatment of chronic urethritis, its prevention, and, when established, its eradication. Let us briefly mention some methods employed for its prevention. In March, 1896, I had the honor of reading a paper before the Homœopathic Medical Society of the County of Philadelphia on the treatment of "Acute Specific Urethritis," entering a plea for its abortive treatment. The methods therein advised are now followed by those connected with the genito-urinary department of the Hahnemann Hospital dispensary. Several important measures

have since been added. The well-selected internal remedy is assigned its proper place. Particular attention is paid to local treatment.

Nitrate of silver is valuable because it destroys gonococci, and although this drug has been abused, nevertheless, under the following conditions, its action is prompt. A 4 per cent. solution should be used during the first twenty-four hours of the first attack; afterwards every second day until the discharge is free from gonococci. Although it may be administered by the simple-injection method, yet it is more successfully applied through an endoscopic tube. The drug suited to most cases is permanganate of potash, although its action is not so oxidizing as peroxide of hydrogen. It may be applied by the simple-injection method—strength, half a grain of the drug in half an ounce of water—although more satisfactory results have been obtained by continuous irrigation. At the Hahnemann Hospital dispensary we have always been ardent advocates of this method, and recently our enthusiasm has increased since using the Valentine apparatus. A brief description may be interesting. It consists of a conical percolator having a capacity of 36 ozs., with a rubber tubing 12 feet long and ⅜-inch in diameter attached to its outlet. The proximal end of this tube is passed through a glass shield, a stop-cock is attached, and a glass injection-syringe inserted; a notched bar on the stop-cock regulates the force of the stream. The percolator is bracketed to a frame on the wall, and by means of pulleys can be elevated to a height of 9 feet. With this the posterior urethra and bladder may be flushed by overcoming the resistance offered by the compressor urethra, but they are left intact by pressing firmly with the little finger at the peno-scrotal junction. The hydrostatic pressure afforded balloons the urethra, establishing an artificial œdema—an unfavorable soil for the life of the gonococci. Treatment should be given every morning and evening, using a solution of permanganate of potash of 1–1000. Valentine washes the bladder in acute anterior urethritis. This we refrain from, since there have been recorded several cases of infection when such a plan was adopted. Bichloride of mercury is valuable be-

cause of its germicidal properties; it should be employed in a solution of 1–20,000, using continuous irrigation. If a chronic state results, stricture is probable, and although the time elapsing from an acute gonorrhœa to stricture formation is rarely less than twelve months, yet within a shorter period granulation-tissue forms. How can we cure chronic urethritis? Our first duty is to ascertain what portion of the canal is concerned in the morbid process by analyzing the well-known symptoms occasionally present, employing the two-glass urine test, using sounds, and by urethroscopy. Frequently no subjective symptoms accompany this condition, and usually the diagnosis is made by the other methods mentioned. The two-glass test, while not an infallible guide, is a most useful one. Pus formed anterior to the compressor urethra flows outward from the meatus, and is prevented by this muscle from returning to the bladder. That formed in the posterior urethra flows backward. Now, if the patient urinates in two glasses, the first will represent a portion of the bladder-contents plus washings from the urethra. The other will be clear, unless cystitis or kidney disease exists. If these are absent, and there is pus in the second glass, it indicates a posterior urethritis. A sound is of course useful in locating diseased areas. Frequently, however, satisfactory results are only obtained by endoscopy.

Chronic urethritis is very difficult to cure, even after thorough measures have been employed. Without doubt, the proper method is to direct local treatment to the diseased area; of course, at the same time, instituting such measures as will allay urethral inflammation. Sexual and alcoholic excesses should be positively interdicted. Occasionally we will meet with a variety of chronic urethritis where the canal is in a condition of catarrhal inflammation, the discharge being quite profuse. In such cases we should irrigate morning and evening with a solution of 1–1000 of permanganate of potash or 1–5000 of nitrate of silver, until the discharge becomes mucoid. Sometimes an underlying constitutional disease may have to be corrected before the case is cured. Ordinarily, however, the majority will present no symptoms except a morning drop or a

gluing together of the lips of the meatus. The first therapeutic measure of importance that should be instituted is the passage of a sound; the size selected should comfortably fill the meatus, which, if too contracted, should be cut. The operator should make the incision upon the floor of the canal, postponing deep urethral treatment until the wound heals. The passage of a sound is beneficial, because it hastens the absorption of inflammatory products and expresses the contents of the glands and lacunæ, thereby exerting a curative action on the pyogenic process. In the absence of urethral fever, a sound should be passed every third day. Following each instrumentation, the urethra should be irrigated with a 1–5000 solution of nitrate of silver. One of the most satisfactory measures at our command for treating the lesions found in chronic urethritis is by the use of the endoscope. With it diseased areas can be touched with very powerful solutions. Applications should be made by means of a cotton swab wound around the end of an applicator which has been previously dipped into a solution of either nitrate of silver, grs. 60 to the ounce, or iodine, grs. 60 to the ounce. This procedure should not be repeated until all inflammatory reaction has entirely disappeared. During the time elapsing between the passage of a sound or the employment of endoscopy the urethra should be daily irrigated with some antiseptic solution. By following these measures we should cure most cases of prolonged urethritis, and naturally (where the inflammation has not existed too long) prevent stricture. No case should be pronounced well until the following conditions have been satisfied: When no complications, such as involvement of other organs, exist, and when an injection of nitrate of silver fails to show gonococci in the discharge that it produces.

THE AMBULANT TREATMENT OF FISTULA IN ANO.

F. WALTER BRIERLY, M.D., PHILADELPHIA.

To the average lay mind every affection of the rectum or anus comes under the sweeping classification of "piles." It is said that 90 per cent. of the adults in this country indulge in the luxury of this venous enlargement, yet Matthews sees nearly as many cases of fistula as of hæmorrhoids. On the other side of the water two-thirds of the cases operated by Allingham at St. Mark's were for fistula. It may be taken for granted, then, that the average practitioner has a number of these cases presenting themselves for treatment. The ideal method we all know is the hospital and the complete operation; but many cases, from fear, inability to leave business, etc., will not submit to this procedure. I wish, then, to present to this Society a method of treatment which I have followed successfully for a number of years, which can be carried out at the office, which causes the patient but little pain, and leaves him free to follow his usual occupation.

Examine the patient as thoroughly as possible without giving him pain. Pass the grooved director into the external opening of the fistula, then insert the finger into the rectum. If the finger be passed first, the tract will be made tortuous by the contractions of the sphincter (Keen & White). Now, bearing the landmarks well in mind, anæsthetize the patient, using the Grigsby inhaler. Paralyze the sphincter with a large Pratt bi-valve speculum, insert the grooved director through the main sinus, and with a sharp knife split up the tract and sever the sphincter, but sever it in *one place only;* then curette the bottom of the wound and apply hydrogen dioxide, pure (Goldsmith). Pack the wound lightly with gauze and put on a T-bandage. This whole operation, including the patient under the anæsthetic, should not take longer than five minutes.

The after-treatment consists in cleanliness. In such a place as this an antiseptic that is non-toxic had better be applied, or

its absorption may prove dangerous. If there was but one tract of the fistula, when the wound heals our work is done. This, however, is not apt to be the case. As the wound heals we find the "pink spots" (Kelsey), which we would look for were we doing the complete operation. These will be found to contain a little pus and to be the openings of other fistulous tracts. The wound will never completely heal as long as these remain. In operating them a general anæsthetic is unnecessary. First cleanse thoroughly, then cocainize carefully. Of late I have been using eucaine for this work, and it can be used with less fear of danger than cocaine. The parts anæsthetized as much as possible, insert the grooved director and cut *quickly*. Careful and even injection into the tissues and the quick cut are the secrets of successful operation without a general anæsthetic. It is almost impossible to produce complete anæsthesia in tissues that are infiltrated like the bottom of a fistula, but the operation causes little pain if the hints given are followed.

This operation must be repeated as often as there are sinuses, waiting each time until the wound made at the previous operation is nearly healed. If the patient will not take ether for the first operation, or if for any reason ether cannot be given, it may be done under eucaine or cocaine. General anæsthesia by the Grigsby method is preferable, however, as it permits a thorough stretching of the sphincter. In nine cases out of ten the patient is ready to walk out of the office in a half-hour after its use.

While the patient is under surgical treatment he should be built up in every way possible, and a good diet, careful hygiene and the indicated remedy will do much toward making our other methods successful. Though many of the patients having fistula have pulmonary tuberculosis, the old idea that phthisis is a contraindication to operation is long since exploded. Judge the patient's ability to stand the operation by his general condition. Recent researches showing the great prevalence and the thorough curability of tuberculosis should certainly encourage us to eradicate every local infection within surgical reach.

A PLEA FOR ANÆSTHESIA.

J. W. HASSLER, M.D., PHILADELPHIA.

It is with a feeling of pride that I undertake to consider this subject with you in regard to an improvement among the general practitioners in administering anæsthetics. It is a question fraught with great significance, yet lightly thought of. I read an article, lately, in which the writer said, "Next to the surgeon in charge, the position of trust and responsibility at an operation evolves upon the anæsthetist." I must say his statement is not consistent with the views of others, and especially with those of the surgeons. Whether the operation is a capital or a minor one, the patient is subjected to the same danger and passes through the different stages of anæsthesia, therefore demanding the same care and responsibility in one as in the other.

This paper is not addressed to the surgeon, he having a special and trained administrator, but to the general practitioner, who performs the minor operations. Too much laxity in these operations is apparent to those conversant with the underlying danger in anæsthetics, and among the profession in general the position of the anæsthetist is considered *nil.* Why? Either they are not cognizant of the danger in the drugs or are ignorant of their pathological action and consider the operation paramount, whereas the operation is to the anæsthetic in the same ratio as a nit is to a lion. A physician a few weeks ago, in relating to me his successes with anæsthetics, said, "I always allow my patients to chloroform themselves; in that way I am positive they do not get too much." I ask you now, is this not criminal? Was he not ignorant upon the subject of anæsthetics? And how many of you have done the very same thing? Would you permit a physician to administer an anæsthetic in this manner to you, to your dear wife, or to your darling children? Why, No! Why, then, do to others that which you would not allow to be done to yourself or to your family? Is it not so, that you have not given this subject the time it should demand in your leisure

moments? Are you aware that the time may come when you must undertake this responsibility? The world is full of physicians who will perform this dangerous work knowing little or nothing concerning it; but "Fools rush in where angels fear to tread."

Is it possible to obviate this danger? Yes. In each town or small city there should be but one or two physicians permitted to anæsthetize. They may lack the practical knowledge, but time increases proficiency and practice makes perfect.

A better plan than the above suggests itself to me. Allow the more recent graduate to do this work. The above becomes obvious when we know that in recent years the different colleges have made this an obligatory course. If you do this, I can see a bright future for anæsthesia. In a few years this branch will be admitted into the curriculum of all post-graduate schools. Our colleges will look more seriously upon this branch, and another ten years, or less, will produce an efficient anæsthetist in every graduate. Customs and fads pass through cycles, and we are now upon the last sector in the circle of anæsthesia; not that it will remain quiescent when it reaches that period of supremacy, but, like surgery and pathology, will remain, and still be surnamed the greatest discovery in the human world, to be added to and improved upon for the benefit of us all.

The Hahnemann College and Hospital of Philadelphia is the only college and hospital in Philadelphia, and I am told the only homœopathic college and hospital in this country, which provides an obligatory practical course as well as a didactic course in anæsthesia.

In a concise form I will state what should be done for the patient prior to an operation, during the operation, and following the operation. The points I wish to mention simply refer to minor operative procedures. No food for four hours before the operation. Examine urine, heart, and lungs. Cleanse the bowels. Loosen all articles of clothing. See that all foreign bodies are removed from the mouth, as false teeth, chewing-gum, etc. Keep the patient well covered. Have the head on

a line with the other parts of the body. Directly before giving the anæsthetic assure your patient there is no danger, to breathe deeply, and keep the eyelids closed. The latter precaution is to prevent any of the anæsthetic from dropping upon the eyeball, and insures quick response to the anæsthetic, the patient necessarily concentrating his or her mind upon that one point. Begin your anæsthetizing by placing the face-mask upon the face free from any of the liquid or vapor; this will reassure your patient, by allowing him to breathe through the mask without encountering any of the anæsthetic. Begin the administration by the drop method. At no time during the first stage allow more than one drop to fall upon the mask at one time. The exception is in the cases of alcoholism and hysteria, where force is often necessary to control your patients. Then, and then only, should you give a concentrated form, to quickly overcome their struggling. The dropper devised by Dr. Northrop is the only one in the market suitable for this purpose. It will be surprising to you to see how much more quickly your patient will succumb and the amount of ether saved by this method. I have been in the habit of using hypnotic influence, or rather mental suggestions, inducing unconsciousness more readily by suggesting the word "sleep" and its degrees.

The patient has now passed into the second stage, or perhaps quietly into the third stage; the muscular system is relaxed; he is anæsthetically dead. Keep the jaw well elevated; note pulse and respiration frequently. Your guide for danger is the pupil of the eye, it also denoting more accurately the condition of the patient; it is to the anæsthetist what a water-gauge is to the engineer. Do not touch the eyeball to detect whether or not the patient is in a deep stage of anæsthesia; it is an abominable practice, causing innumerable cases of conjunctivitis. Clear the throat of all mucus, if any be present. If vomiting occurs, usually due to the patient returning to consciousness, the patient not receiving enough of the anæsthetic, the fault of the anæsthetizer, turn the head well to one side. Death may occur at any time. You should be prepared to observe forewarned symptoms,

and have the proper instruments and stimulants at hand to circumvent this disaster. Instruments necessary, as follows: mouth gag, hypodermic syringe, and a faradic battery. Authorities will tell you to be provided with a tongue forceps. My opinion is to the contrary. Those sold are usually on the order of a volsella forceps, which are inhuman, producing a severer condition of the tongue and buccal cavity. A towel or handkerchief is more suitable, between the folds of which you can retain the tongue. Stimulants are frequently of more service than instruments, the following being sufficient and adequate: Atropia, strychnia, digitalis, glonoin, and aromatic spirits of ammonia. Do not use whiskey or brandy; they are harmful and incompatible.

What shall be done when these accidents occur?

Those due to cardias and respiratory failures: Free access of oxygen by forced elevation of the jaw; if necessary, rhythmical respiration. Elevate the foot of the table. Artificial respiration, if respiratory action is superficial. Force the blood from the extremities towards the heart. *One* stimulant, not too frequently repeated. Faradism of the diaphragm, if condition is extreme. Infusion is the last resort, very frequently the best. When a diminution in the respirations is encountered and the pulse remains firm, I advise doing nothing; I find it to be simply an idiosyncrasy.

The after-treatment is simply that of rest in a recumbent position. Keep the head low. If vomiting is frequent and persistent, a couple of ounces of very sour lemonade or a cup of black coffee will frequently control these symptoms. Have the bed warm, when the patient returns to it, by previously-laid hot bottles in it. Protect the patient from draughts and chances of a cold by blankets.

These suggestions will suffice for general operations. Very frequently a more vigorous treatment is necessary, usually in the major operative line. I will show to you the different methods in vogue at the Hahnemann Hospital of Philadelphia. Ether by the Allis inhaler, also Dr. Grigsby's method with the nebulizer. Chloroform, simple and with oxygen; the latter originated by Dr. Northrop, of Philadelphia.

THE OPERATIVE TREATMENT OF WANDERING SPLEEN.

WALTER STRONG, M.D., PHILADELPHIA.

The surgery of the spleen could, until very recently, be described as being limited to a single operation, that of extirpation or splenectomy, first attempted in 1826 (Quittenbaum), first performed successfully in 1867 (Pean). Since then this operation has been extensively performed for a variety of pathological conditions of the spleen, as well as for cases of movable or wandering spleen. But with a mortality-rate of 30 to 50 per cent., due to shock and hæmorrhage, splenectomy has never become a very popular operation, except in extreme conditions.

Recently an attempt has been made by some of the continental surgeons to introduce a more conservative operation for cases of wandering spleen. At the Twenty-fourth Congress of German Surgeons (1895) this subject was fully discussed. Rydygier advocated that wandering spleen should be treated upon the same principle as floating kidney, and described a new operation which he termed splenopexis, in which the spleen is returned to its normal position and retained there by a pocket formed by stitching the parietal peritonæum to the gastrosplenic omentum. He had operated upon one case with a successful result three months after operation. In the discussion which followed, this operation was heartily approved of by most of the surgeons present, but in the absence of more clinical reports of the operation no definite opinion could be formed as to the ultimate results.

Plucker, in an article upon splenopexis, says that splenectomy for a wandering spleen is as irrational as nephrectomy for a floating kidney. He also claims that an enlarged wandering spleen is reduced in size by the operation. Sykoff approves of the operation, and predicts a brilliant future for splenopexis. He also favors resection of the spleen instead of splenectomy.

Bardenheurs has recently reported a case of wandering spleen in which he anchored the spleen in the tissues outside of the peritonæum, and stitched the parietal peritonæum to the peritoneal coat of the pedicle, and secured a favorable result. Some surgeons (Keen) have expressed doubts regarding the permanency of the results obtained, but this is a question which time and the reports of more operations can alone decide.

In these days it requires considerable courage to write a paper upon any operation without being able to also give a long table of operations, and an attempt to report a single operation is liable to be looked upon as an unwarranted intrusion upon the time of the Society. But in view of the fact that it is only a little over eighteen months since this operation was first suggested, and bearing in mind that so few operations are upon record, I feel that I may be pardoned for bringing to your notice a single case of wandering spleen treated by splenopexis (splenorrhaphy ?).

Mrs. L.; married; aged 33 years; admitted to Women's Homœopathic Hospital on October 13, 1896. Patient born in Italy (central) but has been in this country for over eight years. Has had five children, three of which are still living, last child about ten months ago. Has always enjoyed good health, and no history of ever having had malaria. Patient is well nourished, rather stout, and has large abdomen. Ten days ago fell down stairs and struck upon a bucket, striking left hypochondrium; since then has been confined to her bed and treated by a neighboring physician, but without any relief.

Upon admission complains of intense sharp, continuous pains in the left side of abdomen, extending upwards, and aggravated by motion, pressure, or breathing. Much distress upon taking food, and some vomiting. Bowels loose and watery, much pain with bowel movements. Burning during micturition. Unable to sleep at night on account of pains in side. Temperature, 99.4°; pulse, 96; respiration, 28.

Examination reveals a large, sensitive mass upon the left side of the abdomen, extending from under the left ribs downwards to point two inches below level of umbilicus, and extending from a line one inch to the right of median line well over into

left flank. Lump is very sensitive to touch, and more or less freely movable. Some distention of entire abdomen, increased rigidity of the left rectus muscle. Examination per vaginam reveals uterus free, laceration of cervix, and no evidence of hæmorrhage in pelvis. Urine negative.

Diagnosis of acute dislocation and contusion of spleen was arrived at, partially from the above symptoms and conditions, as well as by exclusion. Patient was put to bed, with a firm compress over the abdomen to keep the spleen from moving, and put upon liquid diet. Symptoms gradually improved, pain decreased, vomiting ceased, and in every way patient's general condition improved. Remedies employed were aconite, arnica, rhus tox. Patient sat up and walked about with very little discomfort; finally, upon October 28th, patient felt so well that she insisted upon going home.

November 3d patient returned to hospital and asked to be readmitted, as she was totally unable to get along with her work at home.

Patient admitted November 3d. Abdomen still sensitive; tumor is somewhat smaller, is further down in abdomen, and more freely movable. Not so much pain or distress if patient remains quiet, but so soon as she moves about the pain and distress become severe. Temperature, 99.2°; pulse, 100; respiration, 34.

The case was treated by rest in bed, compress over abdomen, liquid diet and internal medication until November 18th, without any apparent relief; the temperature, pulse and respiration remained about the same, more or less constant vomiting, troublesome cough and much pain in abdomen, which is burning and drawing in character. The patient now consented to an operation, splenopexis or splenectomy, as I saw fit after opening the abdomen. Consequently was prepared for abdominal section after the routine plan.

November 19th. Patient etherized, incision made at outer border of the left rectus muscle from the ribs downwards to crest of ilium. Upon opening the abdominal cavity the tumor presented itself; from its contour and color was easily recognized as being an enlarged and displaced spleen. Spleen enlarged

considerably, freely movable in all directions, no adhesions, no evidence of hæmorrhage in the region of spleen. Other organs excepting the left kidney apparently normal; left kidney was somewhat enlarged and boggy. I determined, if possible, to save patient the dangers of a splenectomy and endeavor to stitch the spleen in place. With the object of getting adhesions between the spleen and parietal peritoneum I freely scarified the peritoneum over the normal situation of the spleen, then pushed the spleen into its proper location, and by means of several interrupted silk sutures stitched the gastro-splenic omentum to the parietal peritoneum, carefully avoiding the vessels, and also being very careful not to make traction upon the pedicle, for whenever the least traction was made upon the pedicle most alarming symptoms of collapse ensued. Washed out with neutral salt solution, sutured the peritoneum with silk and the remainder of the tissues with silkworm-gut, applied aseptic dressing and a snug binder. Time of operation, 35 minutes. Amount of ether used, four ounces.

Following the operation there was very little shock, reaction came on very promptly, there was no vomiting, passed flatus in twenty hours, was allowed water in small quantities five hours after operation, and took some nourishment (malted milk) ten hours after operation. At no time after operation did the temperature exceed 100.3°. Was re-dressed upon the sixth day; found wound perfectly dry and healing by first intention. Upon the tenth day the sutures were removed, with wound perfectly healed. Kept the patient in bed until December 19th when she was allowed to sit up, and patient was discharged December 31st.

Condition upon discharge; wound entirely dry and not sensitive, the spleen in place and not movable, some slight sensitiveness upon deep pressure. Patient feels perfectly well in every respect. Advised patient to wear an ordinary elastic support for abdomen.

When I last saw the patient (June) she was enjoying excellent health, attending to her usual household affairs; at times slight pain in region of spleen. Spleen decreasing in size, not movable, and only sensitive on deep pressure. For the history of

the case and accompanying records I am indebted to our house surgeon, Dr. Russell.

From my experience with this one case I do not hesitate to say that for wandering spleen splenectomy is no longer a justifiable operation, unless the spleen is so much enlarged that it could not be retained in place. Were I to meet with a case in which it was impossible to stitch the gastro-splenic omentum to the parietal peritoneum in such a way as to retain the spleen in place, I would not hesitate to anchor the spleen in the tissues outside of the peritoneum. Besides the dangers which are always connected with a cœlotomy I do not consider the operation one of any special risk. It is, I think, an operation which should be advised in all cases of wandering spleen which are not amenable to treatment by an external support, and also an operation which should always be kept in mind in connection with abdominal operations, inasmuch as not a few of our most experienced surgeons have mistaken an enlarged displaced spleen for other conditions, and in not a few of these cases splenectomy has been resorted to with fatal results. As to the permanent results of this operation, is there any rational reason why the results of splenorrhaphy should not equal those of nephrorrhaphy?

HELPS IN CIRCUMCISION.

LANDRETH W. THOMPSON, M.D., PHILADELPHIA.

You may find my text in the first half of an old English proverb, viz.: "A thing of beauty—" the balance of the proverb is not now under discussion, so I shall not repeat it.

My thought is not to consider the "why's" nor the "why not's" of the operation, but simply "how" it is best done, and in so doing to give rather my own personal experiences than reference to the many works of other men. As a preliminary injunction, in order to help the baby from the very beginning, the accoucheur ought himself to retract the foreskin during the first week, and at intervals thereafter. He should instruct

the nurse and mother to pursue the same course. This procedure will prevent the formation of adhesions, with their subsequent train of distresses, and render unnecessary the operation of circumcision, because the foreskin, being thus habitually mobile, will never contract down in front of the glans to a pinpoint opening. It will be readily kept clean, inside and out, hence will not become so rigid and thickened by inflammation as to retard the natural development of the contained organ.

We come now to the operation itself.

In the first place, as to the employment of an anæsthetic, the safest rule is to use general anæsthesia for all boys under twelve years, and for all girls—also for the spoiled fighting imps of boys (for there are such) above twelve who will not listen to reason or common sense. However, above twelve, cocaine is quite satisfactory, for it will stop all pain.

In the second place, I believe in rendering the surfaces of not only the genitals, but the surrounding parts, as nearly aseptic as possible by the vigorous use of scrubbing and bichloride before the cut is made.

In the third place, the forcible retraction of the foreskin *by the fingers alone* can and ought to be done as the first step in the operation. This is accomplished by steadying the penis by the middle, ring and little fingers of both hands, then using the forefingers and thumbs to force the skin back. It can be done in five seconds, whereas a probe or director will require as many minutes. The secret is to hold the organ firmly outstretched with the fingers first mentioned, then to work quickly and forcibly with the others. It is really painful to watch the long, tedious efforts with a probe or director or forceps, when you know the same end can be reached instantaneously in ninety-nine cases out of the hundred. The hundredth case cannot be retracted though you used a dozen probes, for either there is newly-organized tissue, resulting from inflammation in the foreskin, which will not roll back, or a cartilaginous ring has formed which must be cut.

In the fourth place, the incision best adapted to the largest number of cases is the very plain cut, with scissors, made from the frenum to the dorsum, inclined upward on the dorsum.

For reasons given below, it will be found advisable to remove considerable skin and leave the mucous membrane long in this cut. The tissues may be steadied by some clamp, like the Levis clamp, or by artery clips; but here, again, I would urge that valuable time is lost in their application, and at least in children the left hand of the operator will always hold the foreskin much more intelligently and guide the scissors more surely than any clamp devised. The mucous membrane is finally nicked at the top and the resulting dog-ears trimmed. Now you will find the advantages of cutting the skin short and leaving the mucous membrane long are that the line of union is further back from the corona, hence there is less probability of its adhesion with the more or less congested and abraded surface of the glans; also that the dressings will lie in close apposition to the line of suture; also that the two cut edges have the counter-pressure of the body of the penis beneath them, and will not, therefore, separate or curl under. It is, however, a serious error to cut *both* skin and mucous membrane short. If any vessels bleed at this stage of the operation it is much more agreeable to tie them now, with the child anæsthetized, than to be called up at one or two o'clock in the morning to do it.

In the fifth place, interrupted sutures are generally better. Four or six are used in most children. But it is particularly difficult to avoid trouble at the frenum, and for this I have employed a stitch which I have not before seen used for this particular purpose, viz.: the needle, held parallel with the penis, is introduced into the skin near the middle line; it is carried across the raw tissue and emerges from the mucous membrane on the same side of the frenum; it is carried openly across the frenum and reintroduced, this time, into the mucous membrane, down across the raw tissue, to emerge through the skin a short distance from its original point of entrance, and is then tied. This has been, in my hands, by far the most satisfactory method of securing the frenum. It gives accurate apposition, and prevents much of the swelling that occurs with other stitches. At our Children's Hospital it has been named my quadrilateral stitch.

In the sixth place, the best of all dressings is a long strip of gauze, iodoform or bichloride, cut as wide as the penis is long when slightly extended. The gauze is folded upon itself so that it will be long enough to go twice around the penis and have eight or ten layers. It is then wrapped tightly around the extended organ, and firmly bandaged or tied with another *wide* strip of gauze. It now forms what you may call a splint for the whole organ, and, as pointed out above, is placed in close apposition with the entire line of suture, thus forming the pressure to which the cylindrical body of the penis is the counter-pressure. As a consequence, there is little or no swelling, and almost all tendency to hæmorrhage is controlled. The dressings remain in position much better, and are less likely to become soiled than by any other dressing I have ever used.

The points above enumerated are largely the outcome of my experiences in our Children's Homœopathic Hospital, where many of these operations are done, and for many causes. Some are done *de novo*, others are re-circumcisions; some for specific or non-specific lesions; for deformity, natural or self-inflicted; for present disease or disease that might appear; for malnutrition or enuresis; for chorea, or to cure deviltry; in fact, it fails one to think of all the "why's" of the operation; but if the six points herein elaborated enable any of you to obtain the article named in my text, viz., "A thing of beauty," my present purpose is fully accomplished.

SPRAINS—THEIR COMPLICATIONS AND TREATMENT.

GUSTAVE A. VAN LENNEP, M.D., PHILADELPHIA.

Of all the injuries to which joints are liable, sprains are perhaps the most frequently met with, and often the most unsatisfactory to treat. Physicians as well as their patients are very apt to make light of an injury of this kind, perhaps losing sight for the moment of the delicate and important structures

which suffer damage, and forgetting the possibility of the many and long-lasting complications which are likely to follow such a trifling accident as "only a sprain." A joint once so injured is never as good as it was before the accident, being weak and especially liable to be twisted again on the slightest provocation.

Sprains occur mostly in the ankle, knee, wrist and small joints of the hands and feet, and are due to missteps, falls, or severe twists of the limb while one end rests on the ground. As a rule the violence comes unexpectedly and catches the joint off its guard, that is to say, when the muscles and ligaments are perfectly relaxed; a sprain may, therefore, be justly defined as a momentary dislocation, or, more correctly, subluxation, the part slipping back in place again of its own accord.

The degree of injury inflicted varies according to the amount of force brought to bear on the parts, from a slight stretching of the ligaments to severe and extensive laceration of the soft structures, fracture of the articular cartilages, and even to chipping off of small pieces of bone. When the latter occurs, the injury is known as a "sprain-fracture." Its favorite location is at the ankle, where small particles of bone are detached from the tips of the malleoli.

The synovial membrane is always more or less injured, being unfolded or torn on one side, compressed or crushed on the other, with consequent exudation of serous fluid into the joint. Laceration of the vessels naturally follows, with escape of blood into the synovial cavity and the surrounding tissues. If the hæmorrhage into the joint has been slight, the blood is readily absorbed and gives no further trouble. If, however, it has been extensive, clots form which become organized, float around in the synovial fluid, or sink into the most dependent portions of the joint. They may also become attached at different points, forming rough surfaces within the capsule or adhesions.

In some cases the tendons escape injury and the muscles are torn, either near or at some distance from the joint. The tear may be confined to individual fibres or extend through the whole thickness of the muscle; the latter is particularly apt to

occur at the junction with its tendon. This injury is followed by more or less effusion of blood around the ruptured ends, which later is converted into a lump of granulation tissue, slow to absorb and likely to hamper the action of the muscle.

Again, the tendons may be displaced from their grooves from rupture of their delicate sheaths; this is very often the case with the peronei, and usually occurs after the joint has been sprained a number of times. Moullin claims that if this displacement recurs it becomes permanent. ("Sprains," p. 88.) A special appliance is then necessary for its treatment.

The ligaments always suffer more or less injury. In severe sprains of the ankle, knee, etc., they are at times torn completely across or wrenched away from their attachments, not infrequently bringing scales of bone with them. In an ordinary sprain, stretching or rupture of individual fibres here and there invariably occur.

Perhaps the structure that suffers most in an every-day sprain is the soft, delicate tissue that fills up the interstices between the ligaments, bones and tendons about a joint. Through rupture of the numerous vessels extensive hæmorrhage occurs, staining the limb, at times, over an amazingly large area. Moullin states that "the amount of bleeding when a joint is sprained and the rapidity with which the extravasated blood is absorbed are very important factors in determining the speed and the completeness with which recovery takes place."

The process of repair is the same here as that of an inflammation in any other portion of the body. It begins at once after the traumatism and continues over a period of time corresponding in length to the mischief done the parts. It is always better not to prognosticate how long it will take a sprain to get well. The character of the parts injured and the proverbial slowness to repair of fibrous tissue, together with the delicate mechanism of joint movements, account for the length of time required for a cure. The fringes at the margins of the synovial membrane and surrounding tissue retain their altered character the longest, and are the last to be restored to their normal condition. If the injury has been severe or repeated a number of times they are apt to become permanently thickened,

and continually keep up a certain amount of irritation in the joint.

The treatment of sprains leaves much to be desired. Almost every one is ready to admit that the average results obtained are far from satisfactory. Perhaps the first measure one thinks of is the application of either heat or cold to the parts. Heat is used less frequently for this purpose than cold, as it cannot be kept up but a short time, and its action, therefore, becomes superficial only. The simplest way to use heat is to immerse the injured member in a pail of warm water, then to keep adding hot water until the patient can stand no more. A few minutes is all that is necessary; then the part is carefully dried and a compression bandage applied. This procedure may be repeated a number of times. Heat is much more useful in the convalescent stage, when frequent immersions for a half hour or more at a time produce very good results. Cold is applied to the parts by means of the well-known ice-bag. When used immediately after the injury it lessens hæmorrhage, controls the effusion into the joint and relieves pain. Its action is more penetrating to the deeper structures than that of heat, and it can be continued for a much longer time. As a rule, 24 to 48 hours is all that is necessary. The more rapid the swelling the better are the results from the use of cold. It is contraindicated in the aged, the very young, and in the rheumatic.

The use of plaster of Paris or silicate of sodium dressings is often necessary to immobilize the joint and secure absolute rest. Their indiscriminate or prolonged use must be condemned. The bad results following such methods of treatment are unfortunately frequent. The dressings should be removed at the end of a week, and passive motion and massage given to restore the joint function. If the acute symptoms have not subsided at the end of that time sufficiently to allow of manipulation, they may be reapplied and left on for another week, certainly not longer.

Perhaps the method that has given the best results is strapping of the joint, immediately after the injury, with adhesive plaster. This was first introduced by Mr. Cotterell, of London,

and highly recommended by Dr. Gibney, of New York. (*N. Y. Med. Journal*, February 16, 1895.) The dressing is applied to the ankle as follows:

The foot is slightly elevated, placed at right angles to the leg, and gently rubbed towards the body to deplete it of blood as much as possible. Then, if the external side is hurt, a strip of adhesive plaster one inch wide is applied, starting at the inner border of the foot, near the base of the big toe, crossing the back of the heel, and finishing on the outer side near the little toe. A second strip is then put on vertically, beginning on the inner side of the foot, just above the malleolus, passing under the heel and finishing half way up the outer side of the leg over the tendo Achillis. Successive strips are then put on, overlapping each other one-quarter or one-half inch, until the ankle is completely covered, excepting a narrow space running up the front of the foot and leg. It will be seen that this dressing gives strong support to the ligaments without interfering with the movements of flexion and extension necessary in the act of walking; at the same time it makes pressure over the joint and hastens absorption. If necessary, additional strengthening strips can be applied over the malleoli and up the leg. A gauze bandage is snugly applied over the plaster and the stocking and shoe put on. The patient is now perfectly able to walk, though such exercise should be limited for the first few days. The adhesive is renewed in a week or ten days, two or three dressings effecting a cure.

For a sprain of both malleoli, the first strip starts on the inner side of the heel, passes back of the heel, then across the dorsum of the foot, and ends just under the ball of the big toe. The second strip starts at a corresponding point on the outer side of the heel, crosses the dorsum of the foot, and ends just under the base of the little toe; successive overlapping strips are applied until the foot is completely covered.

The same principle is applicable to the knee; the strips here are started parallel to the margin of the popliteal space, extending some distance above and below the joint, and run up each side till the margins of the patella are reached, then from below up over the front of the knee, so as to cross each other,

until the lower border of the patella is touched; finally, beginning above the joint, cross-strips are successively applied, covering in the remainder of the free space. A gauze bandage finishes the dressing.

Sprains of the wrist, the joints of the fingers and of the back have been successfully treated by this method. In the Hahnemann Hospital of Philadelphia it is the custom to apply this dressing on every sprain presenting itself, and treat the cases as out-patients. As a rule such patients walk about very comfortably with the aid of a cane. The results have been very satisfactory. If a sprain is seen early, the application of ice for a few hours, followed by a gentle rubbing and then strapping, is strongly recommended.

The following cases have been selected from among a number in both hospital and private work, to illustrate the efficacy of this mode of treatment:

Case I.—A nurse sprained her ankle by falling. She was put to bed and an ice-bag applied to the foot for 24 hours. At the end of that time the adhesive plaster dressing was put on; a day later she undertook the care of a difficult laparotomy, and nursed her case through a prolonged convalescence with no further trouble.

Case II.—A young lady sustained a double sprain of the ankle by falling from her wheel. She was seen a few minutes after the accident. Swelling and pain came on rapidly and became very marked. Rest and ice-bags, one on each side of the foot, for 48 hours, were prescribed. The adhesive dressing was then applied, and the patient walked immediately with the aid of a cane. In one week's time there was no perceptible limp, though the foot was kept strapped for some time longer. When last seen, about two weeks from the time of injury, motion was perfect and walking painless.

Case III.—A young man fell from his wheel, severely twisting his knee. He was first seen the day following the accident. There was marked effusion into the joint, with pain on motion, especially when the leg was moved sideways, and one or two areas on each side and below the patella were tender to the touch. The adhesive dressing was at once applied, with

the knee slightly flexed. The patient walked about with a cane. At the end of a week the dressing was removed and the swelling found to have subsided about one-half. A second dressing worn for ten days reduced the joint to almost its normal size. Treatment was kept up for two weeks more, and then the patient was discharged as cured.

Case IV.—A physician sustained a sprain of the ankle of moderate severity. Pain, swelling and extensive ecchymosis were the prominent symptoms. The foot was strapped, and that night an ice-bag was placed over the tender area. The next day he walked about the city, and in four days more experienced very little inconvenience. Treatment was continued for one week longer, after which time no support was necessary.

Case V.—A boy sustained a sprain of the ankle by being knocked down by a horse. Swelling and pain were marked, the external malleolus being especially tender to the touch. In this case the adhesive plaster was put on immediately after the accident, and was the only treatment used. In four days the patient was walking about without any difficulty and with but a slight limp. A second dressing, applied in the course of a week, was followed by such marked improvement that he was discharged in fifteen days as cured.

Recently, strapping of the chest, as in cases of fracture of the ribs, has been used with most gratifying results in controlling the sharp "stitch in the side" of pleurisy and pneumonia (Solberg). One or two strips two inches wide, placed over the painful area, suffice to give prompt relief.

In conclusion, it can be claimed for this method of treating sprains that it is readily applied, highly efficacious, does not confine the patient to his bed or house, and does away with the use of crutches.

DISCUSSION.

Dr. Joseph E. Jones: We who live in the country and only see our patients once in a while, and have not the same control over them as you would have in a hospital where they come every day, must invent something else to take the place of a method that requires the attendance of these patients every day. You cannot get it in the country; you can in the cities

and hospitals. You want something to substitute for that which you use every day. Now, my experience has been this: that a rubber bandage will take the place of that strip; it can be controlled much more easily, and can be applied with moderate accuracy. I have had case after case of bad sprains of the ankle and knee and of other joints, in which the continuous application of the rubber bandage, even while the swelling was present, enabled the patient to go about. I jumped out of my sleigh one day and sprained my ankle very badly. I immediately put some hot water upon it, just as Dr. Van Lennep suggested, and applied the rubber bandage. The second day I was out working again, and fortunately had no more trouble. That was my first experience, and since using it I have found it exceedingly satisfactory.

Let me give you another little practical hint. Early in my life I was subject to sprains of my ankle. If I stepped suddenly from my carriage I would sprain my ankle on the slightest provocation. It seemed incomprehensible how easy a thing it was to hurt myself, so that I would have to sit down on the curbstone to get my equilibrium. After doing that I would resprain my ankle day after day, week after week, on the slightest provocation, and it became exceedingly annoying. But I soon found if I took a dose of *rhus tox.* 3 after spraining my ankle it would not recur. And there is the proof of the power of homœopathy, even in the case of a sprained ankle.

Dr. L. T. Ashcraft: I have listened to this paper and to the remarks of Dr. Jones with a great deal of interest. I believe that while Dr. Jones's treatment may be correct for some cases (to apply a rubber bandage to an extended surface), yet to follow his plan in all cases would undoubtedly result in some failures, for this reason: A rubber bandage certainly does constrict the limb, and interferes with return circulation. This an adhesive strip will not do. I remember treating a very corpulent lady who was unfortunate enough to have sprained her ankle. I applied adhesive plaster, and she came to see me the next day. Now, while brilliant results have not always followed such treatment, yet, at the same time, where we can get a bandage that will support the parts and not interfere with return circulation, I think that should be preferred.

REPORT OF THE SECTION OF SANITARY SCIENCE.

Is the Present High Rate of Infantile Mortality Necessary? by A. W. Baily, M.D.
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IS THE PRESENT HIGH RATE OF INFANTILE MORTALITY NECESSARY?

A. W. BAILY, M.D., ATLANTIC CITY, N. J.

But few children are born with nature's edict resting upon them that they must die in infancy. The economy of nature knows no lavishness at the expense of human life. She has no children to wantonly sacrifice, she recognizes no overproduction, and infantile mortality as it now stands upon our records is due to some cause other than the decree of nature.

For several years I have been watching and compiling the death-rates of some of our larger cities and towns, and the results show that 44 per cent. of all deaths occur under the age of five years, which simply means that of every hundred infants born, forty-four of them never reach the close of the fifth year. This is truly an immense loss of life, and the inquiry is naturally raised, Can it not be prevented?

The records are far from being complete, and he who would make a careful study of the true cause of infantile mortality has many tangled webs to unweave. Five per cent. of all infants that die are either still-born or die from premature birth, and 7 per cent. are born with some constitutional taint that carries them off under five years of age. This, then, leaves, out of the 44 per cent. that die, thirty-nine healthy infants in every

hundred born who have as much right to live and develop as the other fifty-six healthy ones; but they die an untimely death. Some cause must be assigned for this, and in order to discover it let us investigate closely the causes of death.

The causes of death I have divided into seven classes, namely, (1) premature and still-birth; (2) constitutional or hereditary disorders; (3) contagious diseases; (4) diseases of the nervous system; (5) of the respiratory tract; (6) of the alimentary tract, and (7) miscellaneous. This division is to a degree arbitrary, as the cause of death recorded may be secondary to some disease in another class, but owing to the lax manner in which many of the records are kept and published this difficulty cannot be overcome.

Premature and still-birth are responsible for the death of two out of every hundred children born. With those who are still-born the physician perhaps has but little to do, save to certify to the fact and turn them over to the undertaker. Premature birth demands a little more attention, for at least a small percentage of these untimely births can be prevented, and the mother, by proper care, helped to go to full term.

Constitutional or hereditary taints are accountable for the death of three out of every hundred children born. Under this head are classed all diseases of a tubercular diathesis, malformations, cancer, scrofula and congenital syphilis. That one child out of every thirty-three should die of some disease transmitted to it by one or both parents is far too large a proportion, and demands our attention. Whether those who are suffering from tubercular or syphilitic disorders should have progeny on whom to inflict their diseases is a vital question of social economy. Personally, I believe they have no moral right to offspring until they have been put in such physical condition that healthy children can be reasonably expected.

But I will admit, if you so desire, that these five children out of every hundred cannot be saved; but what of the other thirty-nine who are born healthy but die under the fifth year? I believe that many of these deaths are entirely unnecessary, and are due to neglect, carelessness or ignorance on the part of some one.

Fourteen per cent. of infantile mortality is due to contagious diseases. In this class are included diphtheria, scarlet-fever, measles, small-pox, whooping-cough, croup. As a preventive to contagion, isolation, more or less perfect, is practiced. Often isolation is more in name than in fact, for there is often too much carelessness regarding it. Those who are liable to exposure should be surrounded with an abundance of the purest air that can be secured. Parents often do not appreciate the value of pure out-door air in protecting their children. The infant and adult are not treated alike in this matter; the one is kept in the house, protected from the outside air, especially if it be a little cool, while the youth and adult go out freely. This is hardly just to the baby, for it should have at least as many chances for life as the adult. How many of us can recall a dozen houses among the homes of our patients where the nursery is the most cheerful and sunshiny room in the house? Germs entering a room with an elevated temperature (and the nursery is very frequently too hot) and a lack of abundance of sunshine will develop quickly, and the child playing in such an atmosphere becomes an easy prey to contagion. Parents need to have the truth impressed upon them that pure air and sunshine are the best antidotes for disease.

The same thoughts can be expressed in almost the same words regarding the prevention of diseases of the respiratory tract. Living in a vitiated atmosphere, which is too hot and too dry, lays a foundation for future trouble. The mucous membrane is kept in an irritable condition, nerve-force is depleted, powers of resistance lessened, and some unavoidable or accidental exposure results disastrously. I do not believe in reckless exposure, neither do I believe in the other extreme; for there is a happy medium which, if it entered the life-history of more infants, mortality from diseases of the respiratory tract, which now represents 17 per cent. of the death-rate, would be greatly reduced.

Nervous diseases claim 18 per cent. of infantile deaths. These diseases, especially convulsions, are frequently secondary to other disorders, and one-third of all deaths attributed to nervous causes result from convulsions. Many of these, therefore,

should be credited to some irritation of the stomach and intestines, and as such should be classed as preventable.

But the greatest factor in infantile mortality is that group of disorders which disturb some portion of the alimentary tract; they are guilty of more than one-third the death-rate, 34 per cent. At the head of the list stands cholera infantum. Heat is credited with being the great predisposing cause of all disorders where diarrhœa is a pronounced symptom; but there are other causes as rife, and more sure in their effects, and first among these I would place diet. A sudden change of diet, spoiled food, unripe fruit or vegetables, indigestible or poorly prepared food will frequently engender a condition of the stomach and intestines which only requires some little cause, as a suddenly hot day, or the protrusion of a tooth, to produce a stubborn and perhaps fatal diarrhœa. Diet is one of the greatest and hardest questions the physician must solve in these cases. What food shall baby eat? The old monthly nurse, of course, knows all about it, and too often the question is left for her to settle for the first week or ten days, till the baby becomes fretful and troublesome, and then the doctor is requested to give the baby something to make it sleep. Of course there is indigestion and looseness of the bowels. The seeds of disease are often planted before baby is six hours old. The old nurse declares it is hungry, and immediately stuffs it with sweetened water, brandy and water, gin and water, milk and water, catnip tea, and a score of other diabolical mixtures; and right here will be found the beginning of many cases of indigestion that end in diarrhœa, inflammation and death. The obstetrician has not ended his labors and should not leave the house till he has given strict orders regarding the baby's diet. When the mother has a full breast of good milk the question of diet is easily settled, and the only thing to be determined is the time for nursing; but sometimes nature does not supply the expected food, and a substitute must be secured. Of these there is no end, and each one is better than all the rest, being the only perfect substitute for mother's milk.

There is no perfect substitute for mother's milk. Good cow's milk is the best we can secure, but the casein often causes

trouble. True, this can be modified, and herein lies one of the opportunities of the physician to reduce the mortality-rate. Of the many articles of food upon the market, some are useful in helping digestion, some contain a good deal of nutritive material, and some cannot be too strongly condemned. Especially do I condemn all milk powders, no matter by what name they are called or by whom they are manufactured. In order to evaporate the milk to dryness all the oil must be removed, and there is nothing but the casein and salts left. Milk powders are simply evaporated skim-milk with the nutritive properties of grain added. This simply means pulverized cheese. My experience with this class of foods has been disastrous, and I am satisfied that many an infant has lost its life through their use. You may answer that some babies thrive and grow fat upon them; I have seen babies thrive who have been fed upon bananas and peanuts, but their number is very small. All the milk in these so-called milk powders is harmful; the food would be more nutritious without it, and the child who thrives upon them does so in spite of the cheese.

Under miscellaneous diseases we have a heterogeneous collection, comprising heart and kidney complications, primary or secondary; miasmatic diseases, erysipelas, hæmorrhage, accident, violence, and a number of more or less rare troubles. Altogether, this class is responsible for 5 per cent. of the death-rate.

How many children do we see die every year whose death can be traced to the neglect, ignorance or thoughtlessness of some one. We can number them by the score. Exposure, too much or too little clothing, improper diet, neglect or too much questionable care and kindness, each year secures its victims from among our babies, and we have grown too accustomed to the little coffin and white crape upon the door; we have grown to feel that this is one of the sad scenes of life which we must endure without hope of redress. The minister speaks of the mysterious workings of an all-wise Providence, when perhaps the trouble was catnip tea, Alderney milk, candy, bananas, peanuts, potatoes, short stockings, low-neck dress, an habitually too hot nursery, or a hundred and one other preventable causes.

There is no necessity for the present high rate of infantile mortality, except that which is found in pride, ignorance or neglect.

SANITATION OF OUR PUBLIC SCHOOLS.

F. W. BURLINGAME, M.D., M'KEESPORT.

Having been a school-director for a number of years, I have selected this subject for discussion with the end in view of bringing about a better condition in our public buildings. While it is true that very rapid strides have been made towards bettering the sanitary condition of our school-buildings, nevertheless it is equally true that a great many of our buildings are wholly unfit for the habitation of the sons and daughters who are to grow up and do their part towards achieving the greatness of this country. If this nation is to continue in the glory of its ascendancy over all others, better attention must be paid by those to whom we entrust the health and education of our school-children. A healthy mind and a diseased body will never be fitting companions. I believe that it is the duty of the physician to take the lead in matters of this kind. I believe that the most unselfish people of any profession are the physicians. In the first place, I believe that our children should be better instructed how to take care of themselves. While it is impossible for us to make physicians of everybody, and while, from a financial standpoint, it would be strictly inadvisable, nevertheless the rudiments of hygiene and anatomy can be taught in our schools. While this has been done to a certain extent, nevertheless I believe that that attention has not been paid to it that should be. The laws for the protection of health are few and simple, and these should be vigorously impressed on our school-children from the time they enter the school until they leave.

If an army is well drilled before its goes into battle it may be beaten, but never routed. I think the same is true of our school-children. If, from the time they enter our schools until

they leave, the rudimental laws for the protection of health are constantly sounded in their ears, they will leave our schools as a drilled army, for the better protection of their health and of those less fortunate. I think that we, as physicians, cannot impress the importance of this matter too strongly upon the public. However, teaching will not alone accomplish this. The time was when little or no attention was necessary to the buildings wherein are housed our school-children. Many of you, no doubt, went to school in buildings where it was not a question of ventilation, but a question of keeping warm. In talking with a great number of our older inhabitants on this subject we are frequently met with the question, "Why, what is the use of ventilating our school-rooms? When I went to school we had slabs for benches, and we learned just as fast as they do in these newfangled school-buildings." There is more truth than poetry in that assertion. In those days the carpenter was our best friend. He left cracks and crannies enough through which air, snow and rain could get into the buildings in which we obtained our early education. It was not difficult for the air, the rain and the snow to get in, but it was somewhat difficult to keep warm with the old cast-iron wood-stoves. But those buildings were more healthful, in many instances, than the ones that we now build.

With the improvements in the construction of buildings, and with every effort shown by our architects and builders to make buildings which the cold blasts of winter cannot penetrate, arises the necessity for getting pure, wholesome air from other sources. I have visited many buildings, in my experience as a school-officer, where there was no means of getting pure air, excepting that which could get in through cracks and crevices left by dishonest builders. If we could make absolutely air-tight buildings in these days, or if there was any disposition to do so, it would not be long before the general public would be brought face to face with the necessity of making proper provisions for the supply of pure and wholesome air for our children, who are crowded into our school-rooms. When we remember, too, that our school-children come from all ranks of life; that the high and the low, the rich and the poor, are all

associated together in these rooms; when we remember that only too often our school-boards, either from necessity or negligence, fail to provide the necessary school-rooms to accommodate the pupils under their care; and when we remember that in those school-rooms may sit those predisposed to consumption and a host of other contagious diseases, it is simply criminal on the part of our school-boards to huddle sixty and seventy scholars into a school-room without providing the necessary ventilation. It is much less to be wondered at, therefore, that hospital after hospital has to be built for the purpose of taking care of those who have contracted diseases in our school-rooms when they were children, and which, later on, have developed and rendered them objects of public charity.

The world is full enough of disease-breeding matter for physicians to cope with without the aid that is given by unwholesome buildings. I cannot too strongly condemn the practice of the present day of erecting buildings that are wholly unfit for animals, much less human beings, and I believe that physicians should lend their aid towards having proper legislation on this subject. As a rule, we are too busy to go around and inspect buildings of this kind; and, even if we did, we would not have the necessary authority to bring recreant school-boards to justice. I believe that, like the State of Massachusetts, every State in the Union should pass the most stringent sanitary laws for the protection of our school-children in our school-buildings. There are other buildings that are just as unwholesome, but the object of this paper is simply to call the attention of this body to the most crying evil of the day. Few people have any idea of the disease-breeding dens to which they consign their children, six hours of the day, from the time they are six years old until they are possibly twenty. I repeat right here: if this nation wishes to leave to posterity a strong and healthy people, it must pay better attention to the physical training of the scholars, and the condition of the atmosphere they are compelled to breathe during this time. It is not new to this intelligent body when I say that it is well established that a child will render unfit for breathing thirty cubic feet of air per minute. Now, take

the average-sized school-room, and you will find that it is about 26 by 32 feet, and probably $13\frac{1}{2}$ feet in height. The cubical contents of such a room is 11,232 feet.

Very frequently into such a room as this there are crowded sixty pupils. Allowing the extravagant estimate that this air will be changed once an hour, by means of the various cracks and crevices left by the builder, and we have for each pupil $187\frac{1}{5}$ cubic feet of air in which to live one hour. If we divide this by sixty, we find that in such a room each child will have three cubic feet of air per minute upon which to sustain life and health, whereas the very lowest that it should have is thirty cubic feet. Thus it will he seen that a child shut up in such a school-room as I have just described will have less than one-tenth the chance for health and happiness that the street Arab, who constantly breathes the unadulterated air that God has intended for all his people, will have. But to the average mind thirty cubic feet of air is something enormous. They cannot comprehend that a person can contaminate and render thoroughly unfit for use the enormous amount of thirty cubic feet of air per minute. In order to bring this matter home to the most unintelligent mind, let us imagine a box $3 \times 3 \times 3\frac{1}{2}$ feet. Such a box would contain $31\frac{1}{2}$ cubic feet. Imagine it possible for any one of us to be confined in such a box and have it hermetically sealed. How long do you suppose it would be until a feeling of suffocation would come over the occupant? To you, who are experienced in matters of this kind, it will be apparent that hardly a minute would elapse until the occupant would be gasping for breath. Why? Simply because the atmosphere within that box would have been rendered so full of carbon dioxide, by reason of the exhalations, that the lungs could no longer perform their functions.

What, then, must it be for children to be confined to three cubic feet of air per minute? Is it any wonder that many diseases developed in after life can be traced back to the school-days of the individual? Is it any wonder that our school-children come away at night from these school-rooms pale, haggard, and suffering from excruciating headaches? No! The wonder is that these constitutions are able to withstand

such horrible conditions. It is about time, in my estimation, that the people wake up to the condition of the school-houses to which they consign their children for so many hours of their youthful lives.

I assume that the object of sending our children to school is to fit and prepare them for after-life. I know that some people send their children to school in order to get rid of them at home, and it is altogether possible that I am indebted for what little education I have to the latter cause. If, therefore, the proper training of the mind is the object of our schools, then it follows that our money is illy spent unless we give that mind a chance to be developed. Impure air impoverishes the blood. Impure blood renders dull the mental faculties. A giant mind in a weak body may live, but it will always be known by its peevish disposition. I have visited many a school-room where it would have simply been impossible for me to study. To sit there a very few minutes brought upon me a drowsy sensation which I could not shake off. I did not wonder that the teacher was irritable, the scholars noisy and restless, and the general condition of the school bad. It goes without saying that no one can think clearly for any length of time when confined to a bad atmosphere.

Have you ever studied hard in your own home and labored incessantly with your mind for hours, until you became so drowsy that you could think no more, and then have you not frequently put on your coat and hat, walked out into the bracing atmosphere, and returned to your work perfectly refreshed? Is any other argument necessary that in order to have a clear mind you must breathe a healthy atmosphere? Now, then, what do you think of a class of people who will build a school-house, decorate it, and render it a pleasant habitation for the children, but who will pay no attention whatever to the all-important part so necessary for the development of the mind and body? I say it is a worse than useless expenditure of money to erect a school-building for the training of the mind and then stifle that same mind by making no provisions for a pure atmosphere. It simply ought to be stopped by the State, if it cannot be stopped in the councils of the school-board.

The State of Pennsylvania provides handsomely for its schools, and the hard-earned money that is wrung from the tax-payers for this purpose should be productive of the very best results. These cannot be achieved under the conditions that now obtain in a great majority of cases. It is time that all medical institutions, of whatsoever name, should arise in their might and insist that these expenditures should be with a view to the very best results.

Before closing this paper I shall make some recommendations that I hope will meet with the hearty approval of this Association. But not only are the mind and body affected by the deleterious atmosphere that is breathed into the lungs of our school-children, but that sense which is possibly dearer to us than all others, the eyesight, is wonderfully affected. Of course we know that this is caused by an impoverished condition of the blood; but in order that this matter may be most forcibly presented to this body, I wish to quote from a very able article read at a meeting of the State Health Authorities at Harrisburg, January 25, 1897, by A. M. Sloan, Esq., of the Greensburg Board of Health. The article is so clear in itself that I quote from it *verbatim*. This is what Mr. Sloan says:

"Some one has said, 'Schools are absolute manufactories of the short-sighted;' a variety of the human race which has been created within historic time, and which, if the result of the investigations is to be believed, is enormously increasing in number this last half of the nineteenth century. As generation follows generation, visible defects multiply. Excessive eye-strain in extreme cases of myopia causes blindness.

"It is true that short-sightedness is often hereditary; but I take it this does not mean that the children of short-sighted parents are born short-sighted. They have only the predisposition to become so, and this predisposition is developed through school-life. Yet the conditions surrounding the children in most of our schools tend to produce short-sightedness in children who have no hereditary predisposition, and the statistics, in so far as I am able to gather them, show that the percentage of school-children afflicted therewith increases from year to year. The effects of school-life in producing near-sightedness

in the pupils was first brought to my attention by reading some time ago of the result of the systematic study of the subject by Dr. C. R. Agnew, of New York. In an address before the Medico-Legal Society of that city he stated the results of an investigation made in various schools of Cincinnati, New York and Brooklyn. The number of pupils examined was 1479, of whom 630 were in Cincinnati, 549 in New York, and 300 in Brooklyn. Of the 630 pupils in the Cincinnati schools, 209 were from the primary grades, and of these $83\frac{1}{2}$ per cent. were near-sighted. In the intermediate schools 210 pupils were examined, and of these 80 per cent. were natural and 14 per cent. near-sighted. In the high school, the eyes of 210 students were examined, and of these 78 per cent. had normal vision and 16 per cent. were near-sighted. The 549 students examined in New York belonged to New York College. Here, in the preparatory classes, $57\frac{1}{2}$ per cent. were found with normal vision and 29 per cent. were near-sighted. In the freshman class, $42\frac{1}{2}$ per cent. had natural eyes and 40 per cent. were near-sighted. In the sophomore class no very material difference was observed from that in the freshman class, but in the junior class 37 per cent. had natural eyes and 56 per cent. were near-sighted. The Brooklyn students examined belonged to the Polytechnic Institute of that city. Here, in the Academic Department, 56 per cent. had normal vision and 10 per cent. were near-sighted. In the next higher grade 53 per cent. were emmetropic and $28\frac{1}{2}$ per cent. were near-sighted.

"The statistics of Dr. Cohn, of Breslau, prove how frequently myopia is produced. He found in the first-degree schools in Germany the proportion of myopia scholars was $6\frac{7}{10}$ per cent.; in the second grade, $10\frac{3}{10}$ per cent.; in the third grade, $19\frac{7}{10}$ per cent.; in the highest grade, $26\frac{2}{10}$ per cent. The alarming rapidity with which myopia is increasing among German students formed the subject of a recent debate in the Prussian Parliament. It was there stated that the number of short-sighted increased from 23 per cent. in the first year to 75 per cent. in the ninth or last year. It seemed to be the consensus of opinion in that discussion that illy-ventilated rooms and insufficient light were the main causes of this widespread evil.

"Dr. Risley, of Philadelphia, has determined that the increase of near-sightedness in the public schools of that city is from $1\frac{4}{10}$ per cent. in the primary grades to $28\frac{9}{10}$ per cent. in the grammar grades.

"An investigation made in Baltimore by direction of the Board of Education, a few months ago, discloses the fact that in the public schools of that city thousands of children are suffering from defective vision. The extent of the danger may be understood from the fact that out of 53,000 children thus examined, the eyes of 9051 were found to be seriously impaired.

"In December last the sight of the school-children of Utica, N. Y., was tested with the following results: Whole number of pupils examined, 6118; number of pupils found with defective vision, 2167; or $35\frac{6}{10}$ per cent.

"I have also lately received the report of a like test made in the schools of Sioux Falls, S. D., which shows 47 per cent. of pupils with defective vision. If such a condition of things exists in some cities no doubt it may be found in others, and the danger of myopia is of so grave a character that, unless checked in its progress, it will certainly become a national affliction, as is the case in Germany.

"A series of questions touching the care of the eyes were recently submitted to Dr. E. G. Loring, Jr., by the Medico-Legal Society, of New York. Dr. Loring replied in a paper, which has since been published in the *Medical Record.* To the first question, namely, whether bad air has any direct effect on the sight, the author replies that vitiated air has a specially irritating influence on the mucous membrane of the eye; and that bad air, as a primal cause, may set in train morbid processes which will not only affect the working capacity and integrity of the organ, but may even lead to its total destruction.

"The great increase in the impairment of the vision from the entry of school-life until the close would indicate the great work that remains for us to do to remedy and remove the causes as far as we can. To thus destroy the most useful of senses in helpless school-children seems to be a steady march to savagery and barbarism.

"Again, its increase, from a national point of view, is to be

considered a serious evil. In former times, when literary education was confined to a small number, the question was of little or no importance. Now that education is universal, and the safety of the republic depends upon its enjoyment, the question how to prevent it deserves the most serious consideration."

I do not think there is anything that remains to be said on this subject. Mr. Sloan has unquestionably presented this in its strongest light, and I most heartily agree with him in all that he has said, and view with alarm the statistics which he has so carefully gathered and presented. I take it for granted that every one here has the interest of his or her offspring and that of others at heart, and, if so, see that it is time we raised our voices in condemnation of the system that has so long obtained in our school-rooms. Let us spend less money in embellishments, and let us give to our children plenty of pure, healthful air to breathe while they labor.

The State has carefully provided for the ventilation of coal-mines. In 1891 it enacted "That the owner, operator or superintendent of every coal-mine in the State shall provide and maintain an adequate supply of pure air for the same, and the minimum quantity thus produced shall not be less than 200 cubic feet per minute for each and every person employed therein." The State thus provides that no mine-owner in this State shall subject a man that works in his coal-bank to the poisonous air therein; and yet this great State, that now appropriates $5,000,000 annually for the free education of its youths, has never passed any legislation for the proper erection of school-buildings, so that the youths of these same miners shall have an opportunity to breathe just as pure atmosphere as their fathers. Is it not a parody upon good sense for the State to provide that proper atmosphere shall be furnished to the man who is supposed to be able to take care of himself, but has never lifted its voice in one act for the preservation of the child?

I notice that at the last session of the Legislature a bill was introduced for the proper regulation of school-buildings, but it appears that the Legislature had too many irons in the fire to

take care of such a small matter as the proper ventilation of the school-rooms to which they consign their children and those of every other citizen in the Commonwealth. Again I ask, is it not time that we should take proper action in reference to matters of this kind, in order to attract the attention of the people who look to us as guides of the public safety? I have hardly commenced to discuss the importance of this matter. The object of this paper is not a scientific discussion of this subject, but a plain, unvarnished statement on the part of one of you who "has been there and seen." No doubt you ask me what I would recommend, and I will briefly lay down a few general rules, which are not all my own, but which are culled from some of the best thinkers on this subject.

First.—I would recommend that a State law be passed governing the construction of school-buildings and the proper supervision of the same. In this respect I think the State law of Massachusetts is one of the best. That State provides that all plans for the erection of school-buildings shall be submitted to the State Board of Police before they are adopted. This State Board of Police has the authority to visit and inspect all school-buildings; in fact, its inspection not only goes to school-buildings, but to factories, opera-houses, churches, and even to tenement-houses where clothing is made. This State Board of Police consists of a chief and a number of inspectors. It is the duty of this board not only to examine all plans for new buildings, but to visit the old ones, and where they find them badly ventilated to suggest alterations to the school-boards, and to enforce their suggestions. The average member of a school-board is not an adept at this business, consequently he is easily taken advantage of; but when the State provides for the necessary trained inspectors for this purpose, school-boards have a remedy against imposition. Such a law undoubtedly ought to be introduced into the next Legislature, and its passage insisted upon by every physician in this State.

Second.—There should be at least 15 square feet of floor-space provided for every occupant in a school-room, and 2000 cubic feet of air per hour provided for every pupil.

Third.—It should be made a criminal offense for a school-

board to erect a school-building where means have not been provided to furnish at least thirty cubic feet of fresh air per minute per pupil, and to exhaust an equal amount.

Fourth.—The apparatus for the supply and exhaust for each school-room should be sufficiently large, so that the air would not move at the incoming and outgoing register above six feet per second.

Fifth.—All the heating apparatus should be located in the basement. No heating apparatus of any kind whatsoever should be tolerated in a school-room, not even one provided with ventilation. The fresh air should be delivered into the school-room at or near the ceiling, so that no occupant should ever be exposed to a current of air that has just come off a heating surface. It is a well-known fact, to those who have observed, that fresh, warm air, when thrown into a school-room at or near the floor, will affect all those sitting within a radius of ten or twelve feet from the warm-air register. It is also well known that air sufficiently warm to heat a building, and just coming off a heating surface, is too hot to be breathed. As all air thrown into a room at the floor will rise to the ceiling anyhow, it will be apparent at once that the sensible thing to do is to put the intake at the ceiling, so that it will distribute itself over the ceiling, and by the time it reaches the breathing-level it will have assumed the proper temperature at which it is healthful to breathe. A great many complaints of dry throat are due to the non-observance of this principle. Instead of breathing air with a proper amount of moisture into the lungs, in most cases the atmosphere of school-rooms is such that it will rob the lungs of moisture instead of giving moisture.

Sixth.—All foul-air exits should be at the bottom of the room, and the nearer to the floor-line the better. Not only does the cold air settle to the bottom of a room, but the waste tissues of the body thrown out by exhalations will sink there, too. We do not want cold air in a room, neither do we want foul air; consequently, the best place to take it out is the point where it most naturally gravitates and remains.

Seventh.—The light should enter the room so that it shall come from the left of the pupil, and it should never be less than

one-seventh of the floor-space. The windows should be so constructed that there will be little or no shadow.

Eighth.—The sanitary rooms and appliances should be the best heated and ventilated in the building, so that no odors therefrom can in any manner escape into other parts of the building.

Ninth.—No building should be erected to a greater height than two stories, exclusive of the basement. I think this last recommendation is one that will be approved by every member of this Association. It is a great wrong to ask girls to constantly climb three flights of stairs in school-buildings, especially at school age.

I consider it almost a criminal offence to go over a two-story building in height, but I am well aware of the fact that no law governing that could ever be passed, for the reason that in cities where land is high the expense of erecting two-story buildings would be so great that it would be almost impossible to obtain enough of it; nevertheless the principle is correct, and should be insisted upon wherever possible.

HYGIENE IN SCHOOLS.

ANNA C. CLARKE, M.D., SCRANTON.

In dealing with this subject, it must be kept in mind that all children are wards of the State, the richest as well as the poorest, the delinquent as well as the honest, and it is the business of the State to see that they receive a healthful as well as a helpful education. It is the duty of the State to do this because it is a matter of self-protection, and more needed than the building of navies or the equipment of armies—the one, in fact, often making the other unnecessary.

It is to the credit of any city or school-district to erect school-buildings of beautiful architectural design, and still more so if ample provision be made for the comfort of the inmates. School-buildings should not be more than two stories in height.

The present tendency to economize in ground-room at the expense of the health of developing children is an injustice which no Commonwealth should permit. Each child should have at least 20 square feet of floor-space and from 200 to 300 cubic feet of air-space.

The question of lighting school-houses is one of the greatest importance. One has but to observe the alarming increase in the use of eye-glasses in those of premature years to see how little attention the subject has received in the past. The window-space should equal one-fourth of the floor-space, and should be so arranged as to admit sufficient light for every part of the room, and so situated that the light will come from the back and sides of the pupils—never in front. There should be no more space at the top of the windows than is required to finish the building.

The curtains should be gray, green or drab in color, two for each window, and hung from the centre of the window, so that either the upper or lower part can be shaded as desired. The black-boards should be so placed as to receive the direct rays of light, and never between windows. Lessons put upon the board for pupils to copy are injurious to the eyesight by reason of the rapid change of focus required from the distant board to the near-by paper.

There are now so many excellent systems of heating and ventilating that it would seem almost useless to mention the subject; still there is hardly a more difficult question confronting building-committees. Whatever means are employed for heating, the temperature should be kept at 70° F. regardless of outside conditions, and the difference in temperature between any two points in the same breathing-place should not be more than three degrees. Every school-room should be so ventilated that the amount of air exchanged is not less than 20 cubic feet per minute for each person, and so arranged that all draughts are avoided, and should be effected by methods independent of atmospheric changes.

The desks have a greater influence on the health than is usually supposed. They should be adjusted to the height of each child, so that the feet rest firmly upon the floor. The

seat is better slightly curved than horizontal, as there is less danger of checking circulation in the lower limbs. The top of the desk should be adjusted with special reference to the focal distance required by the individual. The desks, as well as the floors, should be thoroughly cleansed once a week, and each desk should be provided with a cuspidor containing some disinfecting solution.

An abundant supply of drinking-water should be provided, and each child should have its own drinking-cup. The individual cup at school is of far greater importance than at the communion-table. It would be difficult to imagine a more fruitful source of infection than to allow several hundred children to use a common cup—and that, too, during the age of greatest susceptibility.

I believe the City of New York is the first to turn its attention to prevention of disease in the public schools in anything like a manner calculated to check the indiscriminate exposure and heedless propagation of infectious and contagious diseases. The anxious parent desires his children to be in school, and the law permits no truant to escape; so the school-doors are thrown wide open to receive—and unfortunately to overcrowd and pack—children into these human hives without an apparent thought of the danger involved. Heedless and indifferent to the health of others, selfish parents send children infected with contagious diseases into schools where hundreds of well children are necessarily exposed.

Many people seem to entertain an idea that there are certain diseases which are the unavoidable heritage of childhood and youth. This same class regard the isolation of the person or any prophylactic measure as an infringement upon personal liberty. To overcome this source of propagation of disease the New York Board of Health has instituted a daily medical inspection of school-children while in school, and although the system is in its incipiency, the results have been most gratifying and show the great importance of preventing the spread of contagious diseases. Parents quickly appreciate the rules and advice of the Health Officials and keep children who are infected at home. The report for the week ending April 9,

1897, showed that 364 children were found infected out of 7898 examined. Of this number there were: Measles, 3; diphtheria, 13; scarlet fever, 1; croup, 3; whooping-cough, 4; chicken-pox, 15; mumps, 10; contagious eye diseases, 59; and skin diseases, 19.

I wish to call attention to the large number of eye cases. This is certainly a source of trouble which receives little consideration, scarcely a board of health requiring diseases of the eye reported.

New York has set us a most excellent example, and one our own Commonwealth would do well to follow. With such regulations we might hope to stamp out in the near future some, at least, of the devastating diseases of childhood.

During the rainy season and upon inclement days there should be but one session. It is the greatest injustice to send children home, either in rain or snow, to return to school and sit for hours in damp, if not drenched, clothing. I believe this to be the cause of a large percentage of pneumonia during childhood, and consumption a little later in life. The time is coming when there will be but one session in any school, beginning at nine o'clock and closing at one, with an intermission for luncheon. Many city high schools are trying this plan, with excellent results.

Investigation demonstrates that children under sixteen years of age who devote one-half of the six hours in school make as much progress as those who spend the whole six hours in study and recitations.

Such universities as Harvard, Yale and University of Michigan will allow but eighteen or twenty hours of recitation per week, while the average grammar-school requires from eleven to eighteen, and that, too, during the formative period of life. Again, this time is spent on five, and sometimes six, different subjects. The idea which seems to control our educators is best illustrated by the Irishman who set a hen on twenty eggs, and when asked why, as she could not cover them, replied, "I did it to see her spread."

With a program arranged on the plan of a college course, requiring but three recitations per day, and insisting that these

be thoroughly prepared, would do away with that large class of students in our high schools who are so illy-prepared for the work. The idea should be early inculcated that it is more honor to master a subject than to make a grade. As it is, teachers are expected to have their pupils up to a certain page in the text-books regardless of their ability, mentally or physically.

A careful observer finds that 61 per cent. of girls and 40 per cent. of boys in our high schools complain of some illness. This is doubtless due to worrying over many studies rather than to close mental application to a few.

With one session all lessons could be prepared during daylight, and thus leave the mind free for a short time before retiring. School-children should retire not later than nine o'clock, and be allowed to sleep as long as possible in the morning. Their diet should be simple and highly nutritious, and no child should be allowed in school who has not had breakfast. Parents are frequently extremely unwise in allowing children to remain at school during the lunch hour, or to buy cakes and the most indigestible stuffs from the nearby bakery. They would be far better for the exercise on pleasant days, as well as for the properly prepared meal. Many persons are concerning themselves with the matter of proper lunches for pupils. The New England Kitchen has done much in this direction for the day-schools of Boston. But there are many children, some destined to be of the greatest value to the nation, to whom a proper meal would be an undreamed-of luxury. Philanthropists tell us that the time is not far distant when hygienic luncheons will be served to all children at public expense.

A proper education cannot be acquired without proper nourishment. Proper feeding has more to do with the intellect and morals than many educators take into account, and some day pedagogues will be as much concerned about building brain-structure as they now are in the adornment of intellectual trappings.

There is no subject in which the general practitioner should be more deeply interested than in our public schools; and the

physician called upon to attend a boy or girl who fails to inquire minutely into the school-life, its surroundings and habits, fails to reach a very important etiological factor in the case.

HYGIENE OF THE SICK-ROOM.

I. B. GILBERT, M.D., PHILADELPHIA.

I FEEL that I am strictly confining myself within the lines laid down in the subject assigned to me for this paper when I shall try to demonstrate an analogy between the hygiene of the sick-room and the removal or "cure" of certain pathological conditions of the human system that we denominate disease. In the limits of this paper I cannot elaborate. I shall simply touch upon several points in outline.

As that which I am about to say involves homœopathic principles, and as some of the views may seem dissonant, I will state the matter in the form of two propositions:

1st. That the functions of the human organism are performed and maintained at a normal standard by cell-action.

2d. That when the body is invaded by disease-germs, this action is perverted or inhibited by the poisonous products of these germs.

The first proposition states a physiological law; the second is the present consensus of pathologists.

With the increase of the knowledge of the causes of disease the domain of hygiene is ever widening. It links to itself and assimilates within itself some of the vast store of knowledge that is accumulating in the collateral branches of science by the persistent labor of investigators whose zeal, ability and resources are equal to the demand made upon them by a progressive medical profession and an inquiring and intelligent laity.

Although homœopathy cannot arrogate to itself the very pleasing thought that its principles or claims, rightly interpreted, are the leavening power that is gradually moving and

uprooting fallacious theories that have passed current as truth in its own and other systems of practice in the great realm of medicine, yet it is the prime and essential cause of the tendency of all systems of medicine towards smaller doses; and thus, as all great movements are of slow growth, it has gradually and somewhat indirectly brought out the supreme need of preventive measures, and it has succeeded thus in emphasizing the value of hygienic practices now admitted to be paramount in point of utility in the cure of many cases to that of active medication.

To whatever extent we may accept or reject the present germ-theory of disease, the obvious fact that it has given a distinct trend to all systems of practice bears with it the evidence and confirmation that along this line the advance must be made, and that this is the true course of progress in both medical and sanitary science.

Granting these premises, and without entering into any lengthy exposition of the primary cause and the influences productive of this new movement in these two allied sciences, it is surely very gratifying to all liberal-minded men to know that it will end in forming the basis upon which one grand and universal system of medicine will be built, and that one of the most potent agencies operating towards the consummation is this doctrine of small doses, as already stated, of the homœopathic system of medicine.

So long as extreme depletion and large and drastic doses were the dicta of the older profession, so long could there be no true advance towards a universal system, as there was no rational or scientific basis upon which to rear the superstructure which generations to come will see in its symmetry, beauty and completeness.

With the advent of the science of bacteriology, and since, the demonstration has been made that small and repeated doses can produce impressions upon the organism, and that they produce sequences that can only be likened to and find their parallel in the skill with which a musician touches the chords of his instrument. Since then a common and a neutral ground has been found upon which all the reconciled disciples of

Æsculapius can mingle, and there be actuated by the great humanitarian motive, the motive of this Society: "The greatest good to the patient."

This union will be based upon the recognition and confession of the supremacy of this great science of hygiene by all classes and divisions of medical practitioners, and that one science is so closely interwoven with the other that they have become inseparable through the conjoint workings of the plan of smaller doses, and the realization that bacteria are essential factors in disease.

If we thoroughly comprehend the teachings of the day as they relate to bacteriological laws and the physiological processes by which they act upon poisonous matter in the circulation, we will very quickly discover the similarity of purpose in the disinfection of the sick-room and the disinfection of the blood of the patient, or the avenues through which systemic infection finds entrance.

I can barely touch here and there upon the borders of an outline of this analogy and the results that are flowing from the advance in the science of hygiene; but to such a degree does this science and this view of it lay its impress upon medical thought that its laws are now imperative in medicine and in surgery.

He who holds to the present etiology and pathology of pulmonary tuberculosis would be unpardonably negligent were he not to enforce the most vigorous antiseptic or hygienic measures against this disease, which is now known to be infectious, and which can be held in check by instituting promptly the precautionary measures dictated by hygienic knowledge, now recognized as highly effective in shielding those who are predisposed to this fatal disorder.

These, then, are not only imperative precautions, but they are preventive in their effect, and as such place hygienic and sanitary considerations above all others, both as they affect the patient and those who may be exposed to the exciting cause of this disease, so fatal and so prevalent that it always heads the list in all municipal death reports.

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The hygiene of the sick-room of the "consumptive," with a knowledge of the cause of the disease, is plain, simple and self-evident, and in order to give this paper a more practical turn let me name a few precautionary hygienic measures, and summarize some of the etiological factors present and to be overcome in the hygienic combat with this dangerous foe of the human race, who respects neither age nor sex nor clime.

First of all, the rule of hygienic cleanliness must be held inviolate. In this case the infection is brought about by the inhalation of the bacilli contained in the dust of the dried sputum of consumptive patients. Gross negligence alone could subject members of the same family to the entrance of disease germs by this means, and one should think that the condition of a household that could render such an accident possible would alone characterize the domestic administration of the kraal of a Hottentot. But ignorance plays as important a rôle as reprehensible habits, and hygienic instruction is often as needful in the abode of the prosperous as in that of the lowly, that those may be protected who come into direct contact with the patient and those who may be more remotely or indirectly affected.

Etiologically, anything that acts as a deteriorating influence upon the vitality of the system is a predisposing cause, whether it be a transitory functional depression or an asthenic state brought about by organic lesions.

The death-rate in all contagious diseases has been greatly and permanently decreased by the inculcation and proper enforcement of sanitary measures in the light of the knowledge of the causes of disease, although little has been accomplished relatively by direct medication. An editorial on the health of our city in a quite late issue of one of our daily papers ends with this sentence: "There has never been a time in its history when, Schuylkill water alone excepted, there has been more care of its sanitation, less filth in its streets, and more cleanliness in its habitations."

These are the comments upon the fact that owing to the observance of these hygienic rules, the death-rate of Philadel-

phia for the first half of the year 1897 has been lowered to the ratio of 18.14 to every thousand inhabitants.

This is a striking and gratifying home lesson, and when we turn to other countries, as, for instance, to India with its epidemic of the Bubonic plague, we find that it gained little headway against modern hygiene, although, owing to Eastern bigotry and fatalism, poverty and filth, the conditions were as favorable as in previous epidemics for the spreading of this disease. In the last visitation of Asiatic cholera England adopted no measures against it except well-defined sanitary regulations that were intelligently enforced. Although the disease was brought there and treated in its hospitals, it did not spread, nor was such a result feared or anticipated. Hygeia maintained her supremacy in the municipality and in the sick-room.

I fear the time will never come when true tuberculosis of the lungs will be cured; but the time will come when it will be in a great measure prevented, and this is a consummation infinitely more desirable to all physicians and humanitarians than a cure. Under present social conditions, with the increasing demands of our civilization, the stress of work and worry is laid so heavily upon all that it fosters the predisposing condition essential to the increase of tuberculosis; and only when the cause of this disease is more universally known, and the laws of a true hygiene applied, will there be any mitigation in its fatality or decrease in the number of its victims. The inciting predisposition is unhygienic surroundings, and the problem of a cure will be solved by the hygienic use of pure air, proper nourishment, and absolute cleanliness; by an aseptic condition of the blood; aseptic purity of the alimentary canal; aseptic surroundings. All the fulfilment of hygienic laws.

In routine practice the next disease that falls into line in point of frequency, and in point of concern and solicitude to the practitioner and danger to the patient, is typhoid fever. And there is a striking parallel in the causation and treatment, although the exciting cause in either disease produces its effects from different focal points. In typhoid fever the excreta contain the germ that is the propagating principle, and the appli-

cation of the laws of hygiene is an absolute protection against its dissemination.

I have purposely refrained from entering into any critical presentation of the subject of hygiene, attempting merely to sketch in outline some thoughts bearing upon the etiological and pathological aspect of the relation of modern hygiene to the later investigations and hypotheses as they modify and influence the treatment and care of the patient under this new régime of medicine. Added to this, I have made some effort to show the relationship of the different departments of our science, as they mutually develop, one under the stimulus of the other.

Of the two agents of modern chemistry to which all others, in my opinion, are subordinate as cleansing, purifying and antiseptic agents, I will mention only two: Hydrogen dioxide —more familiarly, peroxide of hydrogen; and the latest, formaldehyde. The first has all the properties in perfection of an ideal purifier for internal or external use; and the other, in gaseous form, supersedes both chlorine and sulphurous acid gases; and although greatly superior in antiseptic power, it has the bleaching property of neither, so that it is applicable to the disinfection of rooms and clothing, insuring absolute destruction to all germs, yet neither injuring the texture nor affecting the colors of clothing, bedclothes, or anything with which it may come in contact, or which may be exposed to its action. These two agents, reinforced by the use of soap and hot water, cover the whole field of antiseptics and disinfection.

The great scheme of medicine is advancing, but it is not yet a full-rounded, complete and perfect science. There are seemingly conditions of the system in disease to which no laws of cure can be applied, be they *similia*, *contraria*, or any other law or hypothesis. But the laws of hygiene can be applied in all states, under all conditions, to the benefit of the patient and his surroundings.

Under the new enlightenment we are no longer fighting some imaginary entity under the specific name of some disease, but we are preventing disease and the spread of disease by our hygienic efforts; and we rectify interrupted and perverted

cell-action, caused, in many cases, by the poisonous products of specific germs that are now named and classified, and against which we can now successfully contend with a knowledge born in the light of this great advance made in the sciences of hygiene and bacteriology.

DISPENSARY ABUSE—RESULT OF AN INVESTIGATION OF OVER ONE THOUSAND CONSECUTIVE CASES.

EDMUND H. KASE, M.D., PHILADELPHIA.

THE purpose of this paper is simply to present the result of an analysis of 1058 consecutive cases who applied for treatment at the Hahnemann Hospital Dispensary, Philadelphia, Pa., beginning June 17, 1897, and ending July 8, 1897, inclusive, together with a few thoughts and observations bearing on this subject.

I do not flatter myself that upon this question, which has so recently received such thorough and wide-spread discussion and attention by the medical societies and associations in nearly all our leading cities throughout the country, I can either throw any new light or adduce any new facts. As the subject has engaged so much attention and provoked so much dispute, however, among all classes of the medical profession, many of whose statements seemed to be so widely at variance with the facts of the case, I was led to investigate the matter carefully, and considered the time for such action could not be more opportune. No careful observer of the medical relief of the poor as looked at through the dispensary medium, and the periodical agitations of the subject, can fail to admit that there must be an evil somewhere.

Believing, as I do, that no gauge or measure, rule or requirement can be constructed by which standard all cases can be judged properly, I endeavored to consider each person a class unto himself, and by careful questioning and cross-examination

elicited all the facts possible bearing on the individual case. I am ready to admit the possibility of inaccuracy, misinformation and deception; at the same time, in the absence of evidence to the contrary, aided by investigation into some doubtful cases, with negative results, I am ready to accept the statements as a whole as fairly accurate, and altogether such as might be expected from the average person interviewed alone, especially when combined with efforts of mutual interest and confidence. And as I watched the expression of the countenance, and caught occasional signs of approaching tears and evidences of smothered mental emotion, I must confess I was particularly well satisfied with the frankness of manner, and heartily glad when my task of prying into the affairs of a multitude of good and deserving people was at an end.

All of the 1058 cases who applied for treatment during the period mentioned were required to give the following information, viz.: the name; address; age; married or single; occupation; average amount of cash received per week by applicant, from occupation or otherwise, during the past year; average amount of cash received per week by all other members of the family, from occupation or otherwise, during the past year; average aggregate cash receipts per week for the past year, in said family; number of persons in said family supported from the aggregate cash receipts; property or real estate owned by the said applicant or family; department to which the applicant was sent. In only three cases was I unable to get full information; one was a foreigner, another was intoxicated, and the third was too young to answer the questions. The original record from which these facts have been taken is now on file in the dispensary department, and is open to private inspection and investigation by members of the medical profession. This record also contains some general remarks, suggested by special features of some of the cases, relative to support; intoxication; separation of husband and wife; chronic incurable ailments and deformities and afflictions of mind and body, interfering with occupation, etc.

The result of the analysis is as follows:

	Medical.	Children.	Eye.	Chest.	Surgical.	Orthopædic.	Throat.	Women.	Skin.	Ear.	Nervous.	Venereal.	Obstetrical.	Total.
CLASS 1.—Patients *very poor*, evident pauper class; children and elderly people who with difficulty are able to find their daily bread and shelter; includes those out of work *most* of the time during the past year, ...	27	5	6	5	9	...	5	3	5	3	6	12	...	86
CLASS 2.—Patients who have no one to support but themselves, and whose aggregate cash receipts during the past year have averaged less than $8 per week, ...	50	...	18	3	29	5	14	11	11	4	3	24	...	172
CLASS 3.—Patients who have no one to support but themselves, and whose aggregate cash receipts during the past year have averaged $8 and upwards per week (includes cases receiving as high as $12 per week), ...	6	...	3	...	16	2	2	...	5	...	4	4	...	42
CLASS 4.—Patients who have no one to support but themselves, and whose aggregate cash receipts during the past year have averaged over $12 per week (includes cases receiving as high as $15 per week),	1	...	...	1	2	...	...	...	...	...	...	...	...	4
CLASS 5.—Patients who have no one to support but themselves, and whose aggregate cash receipts during the past year have averaged over $15 per week, ...	...	...	...	...	1	...	...	...	1	...	...	...	...	2
CLASS 6.—Patients who have no one to support but themselves, and whose aggregate cash receipts during the past year have been from $3 to $5 per week, including board, .	15	...	3	...	11	...	3	4	1	...	1	2	1	41
CLASS 7.—Patients who have no one to support but themselves, and whose aggregate cash receipts for the past year have averaged more than $5 per week, including board, ...	2	...	...	...	2	1	...	...	...	...	...	...	...	5

	Medical.	Children.	Eye.	Chest.	Surgical.	Orthopædic.	Throat.	Women.	Skin.	Ear.	Nervous.	Venereal.	Obstetrical.	Total.
CLASS 8.—Patients from families with two or more to support, in which the aggregate cash receipts for the past year have averaged $10 or less per week, ...	131	63	61	22	108	10	36	29	25	15	20	20	3	543
CLASS 9.—Patients from families with two or more to support, in which the aggregate cash receipts for the past year have averaged more than $10 per week, and less than $12 per week, ...	5	3	5	...	8	...	6	...	...	...	...	1	...	28
CLASS 10.—Patients from families with only two to support, in which the aggregate cash receipts for the past year have averaged $12 per week and upwards (includes cases receiving as high as $15 per week), ...	8	...	2	1	5	...	...	1	2	2	1	2	1	25
CLASS 11.—Patients from families with only two to support, in which the aggregate cash receipts for the past year have averaged over $15 per week, .	1	...	...	...	3	1	...	1	...	1	...	...	...	7
CLASS 12.—Patients from families with three to support, in which the aggregate cash receipts for the past year have averaged $12 per week and upwards (includes cases receiving as high as $15 a week), .	...	...	...	...	3	...	2	1	3	...	1	1	...	11
CLASS 13.—Patients from families with three to support, in which the aggregate cash receipts for the past year have averaged over $15 per week, .	...	...	...	...	1	...	...	...	...	...	...	...	...	1
CLASS 14.—Patients from families of four to seven to support, in which the aggregate cash receipts for the past year have averaged $12 per week and upwards (includes cases receiving as high as $15 per week), ...	9	4	13	...	17	3	3	...	9	1	1	4	...	64

	Medical.	Children.	Eye.	Chest.	Surgical.	Orthopædic.	Throat.	Women.	Skin.	Ear.	Nervous.	Venereal.	Obstetrical.	Total.
CLASS 15.—Patients from families of four to seven to support, in which the aggregate cash receipts for the past year have averaged more than $15 per week (includes cases receiving as high as $18 per week), ...	2	...	2	1	6	...	...	1	...	...	...	...	...	12
CLASS 16.—Patients from families of four to seven to support, in which the aggregate cash receipts for the past year have averaged over $18 per week, ...	1	...	1	...	2	1	...	...	1	...	...	...	...	6
CLASS 17.—Patients from families of seven to twelve to support, in which the aggregate cash receipts for the past year have averaged $12 per week and upwards (includes cases receiving as high as $18 per week), ...	...	...	1	...	3	1	...	...	1	...	...	...	...	6
CLASS 18.—Patients from families of seven to twelve to support, in which the aggregate cash receipts for the past year have averaged over $18 per week, ...	...	...	1	...	1	...	...	...	1	...	...	...	...	3
Grand total cases, . .	258	75	116	33	227	24	71	51	65	26	37	70	5	1058

A still further analysis of the information secured in this series of cases under the question of property and real estate reveals another very interesting phase in connection with this study, as indicated in the following review:

CASE 5, Class 8, owns a house assessed at $2000 on which there has been paid $1500. The case is a woman, separated from husband; keeps house for a relative and receives $3 a week with board.

CASE 13, Class 17, age 17 years. Father owns a home valued at $1800. Family of 8. Aggregate weekly cash received, $12.

Case 16, Class 16. Hackman. Averages $25 per week. Keeps horse and assists to support family of 5.

Case 24, Class 15, age 15. Father owns house. Value, $2200. Six in family. Aggregate weekly cash, $13.

Case 43, Class 8, age 69. Owns house valued at $800. Four in family. Aggregate weekly cash receipts, $10.

Case 81, Class 10, age 58. Lives on his income (self and wife), $15 per week, from property, stocks, etc.

Case 97, Class 8. Widow, age 76. Owns house, value $3000, in Lancaster County.

Case 124, Class 10. Two in family. Owns house valued at $800. Aggregate cash received per week, $12.

Case 171, Class 14. Owns house valued at $3000. Five in family. Aggregate cash received per week, $14.

Case 176, Class 14. Father owns house valued at $1200. Six in family. Aggregate cash received per week, $12.

Case 197, Class 2. Owns house, valued at $3000. Out of work. Supports self only.

Case 234, Class 14, age 18. Father owns home valued at $600, in small town.

Case 255, Class 8. Family 2. Has paid $700 on his home.

Case 297, Class 14, age 13. Father has paid $600 on home. Weekly cash received in family, $12.

Case 301, Class 8. Husband is a sailor, and supports her and owns a home valued at $250, in Nova Scotia.

Case 319, Class 2. Widow, 61 years old. $1000 paid on home. Care of self only.

Case 326, Class 2. Owns 2 houses valued at $2000 and $1200. Widow, aged 59.

Case 337, Class 8. Child, orphan. Cared for by grandfather, who owns home valued at $2000, and receives $10 per week from his occupation.

Case 398, Class 8. Owns farm valued at $1000, in Berks County.

Case 451, Class 14, aged 18. Mother owns $10,000 property; is a widow.

Case 458, Class 8. Out of work. Family of 5. Owns $1000 property.

Case 502, Class 18. "Supports family of 9 on income." Brought by the family physician.

Case 545, Class 14. Owns $4500 house. Aggregate cash received per week, $12. Invalid father. Five in family.

Case 608, Class 16, age 18. Father owns $5000 home and $5500 investment. Family of 6.

Case 695, Class 17. Father owns $3000 property. Family of 10.

Case 765, Class 8. Owns $4500 property. Out of work. Family of 4.

Case 768, Class 8. Owns $200 farm near Newark, N. J.

Case 785, Class 2. Widow, 75. Owns $4000 home. No other help.

Case 805, Class 8. Owns $4000 property. Family of 8. Weekly cash, $10.

Case 844, Class 8. $800 paid on home. Family 5. All out of work.

Case 848, Class 18, age 17. Mechanical student. Father owns $75,000 properties and upwards. Family of 8.

Case 850, Class 9, age 18. Mother, widow. Owns $3000 home.

Case 874, Class 9. $300 paid on house. Family of 6. Weekly cash, $12.

Case 903, Class 15. Owns $2000 home. Family of 5. Weekly cash received by family, $15.

Case 958, Class 2. Widow, 54. Owns $200 on a house.

Case 969, Class 8. Owns home, value $1500. Family of 5. Aggregate weekly cash received, $10.

Case 972, Class 14. Owns home, value $3000. Family of 4. Aggregate weekly cash, $14.

Case 1025, Class 8. $600 on a home. Family of 4.

Case 1034, Class 15. Owns $4500 house. Family of 4. Keeps hat store.

This number of consecutive cases seems sufficiently large to constitute a fair average for the entire year. Thus one can readily see, from the foregoing, just what class of patients are receiving treatment at this dispensary. Except in very rare cases, treatment is always given indiscriminately to all who

apply; and this is generally true in nearly all other large dispensaries, and especially those connected with hospitals and colleges. Therefore the above analysis may be taken as a fair index of dispensary work generally. Any modification would, doubtless, largely depend on the location and general surroundings of the institution.

It is not my purpose in this paper to say who are or who are not appropriately deserving of medical service through the dispensary medium. This is, indeed, a difficult and delicate problem to solve. Without fear of contradiction, however, I feel safe in saying that the great majority of physicians, as well as laymen, would hardly claim that all of the above 1058 people were deserving of free medical service; on the contrary, all will agree that there are some among this list who *should* not be allowed to partake of dispensary aid, being totally undeserving of such charity; and some means, therefore, should speedily be applied to correct this abuse, however small it may be, which tends to a wrong diversion of funds, and is an open bid for pauperism and dependence; and, furthermore, medical relief of the poor is part and parcel of that greater problem which confronts the educated world to-day.

I deeply regret that I have not words at my command to adequately express my feelings of intense satisfaction and gratification at the immense amount of good work accomplished by this dispensary in assisting a large class of worthy people, even though regularly employed, whom it would be a crime and disgrace to call paupers. I refer to the American mechanic and laboring man. The careful study of each of these individual cases alone, together with all of its special features, reveals an interesting and commendable degree of thrift in the working-classes, manifested under the most adverse circumstances, in trying to get along; for this is, indeed, a cold world, and now, as in the past, let it be the glory of the medical profession to consider and assist this class of working-people, who, with much self-denial and absence of many necessary comforts, endeavor to get on in the world, raise a family, provide a comfortable habitation for them, and maintain good citizenship and self-respect, which class, it seems to me, are well worthy of all the

encouragement and sincere respect at our command; and to minister to *their* needs faithfully and skilfully should be the desire and aim of every dispensary physician—much more so than to the real pauper class, which includes a large proportion of the dissipated and tramps, whom we all support. And while we are wrestling with the problem what they are good for, and what to do with them, we often find ourselves guilty of actually coddling them.

We cannot estimate the ability of persons to pay for medical assistance by what money they receive alone; that for which the same must be expended in the support of family or other necessary affairs of life must be considered as well.

Again, we must not forget the improvident element that enters so largely, in different degrees, in the mental make-up of all of us. This we must not lose sight of in dealing with the dispensary question. No matter what wages are earned, or how large the compensation given to many people, somehow or other they do not get along well, and let me add, unfortunate as it sounds, can't help it either, and yet they can neither be called poor nor of the pauper class. Such persons, as we all know, are constantly behind in their financial obligations, although themselves wishing the result otherwise; consequently, when they need medical help are entitled to it, and especially those dependent upon them for support.

Another feature of the dispensary problem is, as stated to me in a recent interview on this subject, "Everybody gives; therefore everybody can and should receive medical aid, if he chooses to ask for it." While this is only in part true, yet we must bear in mind the fact that immense sums of money are raised among the public for the support of these institutions by fairs, entertainments, donations, receptions, teas, etc.; by private and corporate aid, as well as by large revenues from the State, which latter represent a form of taxation to which many more are compelled to pay tribute. Now, as there is nothing in the charters under which these institutions were created limiting the medical treatment to any particular class, there has naturally grown up a feeling among a large element of said contributors (however small the amount) that they were in a

measure owners, or stockholders to a degree, at least, and evidently feel, whatever their financial circumstances, favorable or otherwise, that they have a right to receive some of its benefits, and ofttimes are energetically working and using their influence to send others, regardless of their (the patients') ability to pay a physician. The same impression is sometimes evidently in the minds of physicians, directors, and managers of hospitals and dispensaries, judging from the character of the cases occasionally sent in.

Directly in connection with this phase of the dispensary problem, viz., that of asking for and receiving aid indiscriminately, brings to mind the complications arising from contributions received from railroad corporations, immense manufacturing establishments, large business houses, great iron and machine works, etc., where in each of which large numbers of persons are employed, from the owners and management down to the commonest laborer. Such corporations and establishments as above enumerated, and many more of various kinds, are asked to contribute; the result is that they do, and usually with the understanding that in return for the same, medical service is to be supplied to such of their employees as they may choose to send. This, of course, is only natural, and the result is that a large army of the regularly employed find their way to the dispensary. To indicate to your mind more thoroughly the facts set forth here, let me relate an incident bearing on this subject, in connection with our work in 1893. Among a number of sick and accident cases from a large neighboring establishment were two cases requiring treatment, and holding blank certificates from some beneficial society or association, and requesting the attending physician to fill them up, stating the nature of the illness, accident, etc. Inadvertently, through one recently appointed on the staff, and consequently inexperienced in such matters, a charge of fifty cents each was made for filling up said certificate, and turned into the dispensary revenue. This created a storm, accompanied by a demand from the *firm* that the mony be refunded. This, of course, was promptly complied with.

Following up this line of thought, we arrive at another source

of dispensary abuse, viz., that of the accident departments of our hospitals, open day and night, and acting as feeders to the hospital and dispensary. The plan of taking a person, suddenly overcome by illness or accident, without delay to the nearest hospital, for obvious reasons is a good one; and, thanks to the modern method of patrol and ambulance service, the work is done in a remarkably short space of time, and thus the duty we owe to humanity is greatly facilitated. Without regard, however, as to who the patient is, whether millionaire or pauper, or to whatever station in life, socially, financially or otherwise, he belongs, when able to leave the institution he is given the time and place of the dispensary department, and is told to call there for further treatment and attention—not being questioned as to his own feelings as to whether he would not like his own family physician to take charge of the case, now that his present needs have been attended to. The consequence is that some well-to-do persons find their way into the dispensary, much to their own surprise and chagrin, and sometimes not without feelings of anger—a circumstance that I have not infrequently witnessed. Thus the first step in the process of weaning the well-to-do patient from his own family physician, and that usually at first against his own will, and forthwith installing him as a full-fledged and regular dispensary patron, is accomplished. In connection with this, let me say that the habit of physicians in sending their private patients to dispensary specialists for free examination and treatment in a special direction, and asking for opinion and report of diagnosis and directions for further treatment and management, should be stopped. Let such cases as are obviously well removed, socially, from that which should constitute the dispensary class, be sent to the private office of the physician whose opinion he desires, with a note stating that the bearer can only pay a moderate fee, and thereby assist in providing more time and money for the treatment of those more unfortunate.

Following all this experience, is it any wonder that these same patients whom we have invited, or caused to be invited, invite *their* friends in the counting-house or shop to go and partake freely of that for which they heretofore have been willing

to pay? And let me ask you, in all earnestness, who is to blame? Surely, with these facts held up to view, you will not join with those writers who have not given any special attention to the details of the subject, and consequently are entirely ignorant of how these conditions of abuse originate, when in their broadsides directed against the modern dispensary (in times of depression due very often to an overcrowding of the medical profession), they call these people "impostors," "robbers," "liars," "thieves," "cheats," "frauds," and "persons of contemptible meanness," etc. I wish to embrace this opportunity to emphatically protest against the hurling of such epithets, in the face of the true facts and circumstances as already related, against a class of innocent people more sinned against than sinning, and to deny the bold statements recently made, entirely unsupported by facts, that "fully 50 per cent. of the patients who apply for free medical aid are totally undeserving of such charity;" that "the institutions in question are crowded daily by hundreds of well-to-do patients, who are encouraged to defraud the really poor and cheat the charitably-disposed doctor of his legitimate fee;" further, that "medical charity is now a bloated mass of rottenness that extends to the very core of laudable intentions." Again I ask you, does the analysis of this thousand and more cases indicate such a lamentable significance in the Hahnemann Hospital Dispensary of Philadelphia? It is hardly necessary for me to say *no*. The facts of the case completely disprove the malignant libel on such meritorious work.

In most of the recent discussions, and in the literature that has appeared on the subject, considerable injustice has been done many a worthy patient through the fallible method of judging by appearances, thus leading to grave errors—at times ridiculously and painfully uncharitable, and quite unworthy the good name, mental calibre and dignity of the medical profession. Such a superficial and exclusive method of treating this delicate subject cannot be condemned too strongly. Have we arrived at the time when a person unquestionably entitled to dispensary treatment must not appear in public or at the dispensary tastefully adorned; in good clothing, or even

jewelry, possibly saved from the wreck; or, as is often the case, wearing the best of apparel given by kind friends and relatives; or the clothes, including the much-talked-of seal-skin sacque, handed down from deceased relatives, or possibly a deceased sister? Let me ask *you*, who know something of the adverse circumstances of this life, and know well, what happens to a man or a woman who fails to keep up a respectable appearance? Is it not possible for such a person, as well as a man neat, clean-shaven, and well and comfortably dressed, to be a proper subject for dispensary aid? Must men or women in times of adversity be compelled to sell everything they possess, including many of those things which make life pleasant and comfortable, as well as adorn and make possible a respectable appearance, in order to be able to consult the doctor in his private office, and refrain from patronizing the dispensary? Is it not possible for a person to keep within the bounds of dispensary propriety and ride on the car, or even the bicycle, without having his affairs pried into? If the medical profession has arrived at that degree of poverty and helplessness, I have not yet learned it.

In conclusion, let me say that, from my position as executive officer, and having been brought face to face with nearly 100,000 new patients during the past few years, I believe that the cause of over 90 per cent. of the dispensary abuse can properly be placed at the feet of the benevolent medical profession, who for ages past, by their deeds, have been constant, living examples that charity was the greatest of all the virtues. The first consideration with the physician is the satisfaction of performing a bounden duty to humanity, which to him is a satisfactory equivalent; and it is not, as in the other liberal callings, a question of money. With these feelings and noble sentiments born in us and ever before us, is it any wonder that we have ofttimes, by manner, given the impression to those about us that *all* the sick and suffering are *welcome* to come to the dispensary and hospital? The case is made more plain, and the position of the physician more clear, when we consider the secondary purpose for which the hospital and dispensary are maintained, viz., to gain clinical material for medical teaching, and

to give unlimited experience and facilities to physicians and students to acquire the highest skill in the study and practice in the most noble of arts.

All the foregoing facts, and last, but not least, the attendant element of competition with rival colleges and institutions, very nearly complete the picture of the cause of the inevitable abuse of the dispensary which has grown up while the profession itself has been an unwilling witness.

To correct and eliminate the existing evils and defects, and bring the problem to a successful solution and termination—in view of the rivalry and active competition which exists between the different hospitals and dispensaries—will require, first, a definition as to what constitutes a dispensary patient, and, second, its recognition and understanding, and a general co-operation on the part of all institutions in a city on this point, as well as general reforms along the line of organization, government, and general and detail management, without which dispensary abuse will continue to grow proportionately worse—a result inevitable with a continuation of the present methods.

REPORT OF THE SECTION OF CLINICAL MEDICINE.

Some General Remarks on Locomotor Ataxia, by Clarence Bartlett, M.D.
The Acutely Unconscious, by W. Dod Bayley, M.D.
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SOME GENERAL REMARKS ON LOCOMOTOR ATAXIA.

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THE frequency with which locomotor ataxia is observed in practice, and the readiness with which it may fail of recognition in its early stages, always makes it a subject for fruitful discussion. The writer intends, in the following pages, not to advance any new ideas, but rather to give such opinions as have been forced upon him by the observation of a large number of cases treated in private, hospital and dispensary practice. Considering, first, the question of etiology, the relation of syphilis to locomotor ataxia first demands attention. In a paper published in the *North American Journal of Homœopathy* for July, 1886, I took the ground that locomotor ataxia was very frequently of syphilitic origin, 44 per cent. of my cases (38 in number) at that time giving a specific history. In a paper antedating this, and on the same subject (*Transactions of the Homœopathic Medical Society of Pennsylvania*, 1883, p. 68), I remarked, "From the data at present at our disposal we

cannot fix certainly the true relation between ataxia and syphilis. That they frequently co-exist is undeniable; that there is a relation between them of cause and effect cannot be considered as yet as definitely settled." Further experience since these communications has made a great difference in my opinion, until now I give my endorsement to those who claim that a syphilitic history is obtainable with such frequency in ataxic patients that the disease may be called, without distorting facts, "syphilitic ataxia." In other words, *without syphilitic infection the advent of locomotor ataxia is an impossibility.* It is true that a history of syphilitic infection is not obtained in every case. A careful investigation of many of these, however, affords us interesting matter for reflection. For example, I may quote from my first paper, in which I detailed an instance of a patient who denied in the most positive terms that he had ever had syphilis. After the patient had gone, a physician who was standing by told me that he had seen the man treated for syphilis about eight years before. In a private case the existence of a primary syphilitic lesion was denied, and yet inquiry demonstrated, at the age of eighteen, the existence of symptoms which we know can come from scarcely anything but syphilis, while at the time of examination tertiary syphilides were found over the tibiæ. Only to-day I examined a patient for hospital admission—a case in which, judging from the note sent me by the attending physician, syphilis had not been suspected. The clear history of lightning pains, Argyll-Robertson pupils, paretic bladder and ataxic gait made the diagnosis unquestionable. The question as to the existence of syphilis being put, the patient replied, "Yes, I had it; but that was fifteen years ago, and it did not amount to much." We have, then, three classes of syphilitic ataxics in whom the existence of specific infection is denied: 1, The untruthful; 2, The ignorant; and, 3, The careless. Such cases are, of course, met with most frequently in dispensary practice. This being the case, it is not surprising that statistics obtained from institutions give a syphilitic history in less than 100 per cent. In private practice I find that practically all patients admit the syphilitic infection.

That statistics relating to syphilis cannot be accepted as strictly accurate is demonstrated by Hirschel's observations. In a large series of undeniable tertiary lesions a history of syphilitic infection was not forthcoming in 30 per cent.

That syphilis is not the only factor in producing the disease is self-evident; but just what the accessory etiological factors are, and their relative importance, cannot be stated. There are individual instances in which exposure, sexual excesses, alcoholism, physical strain, neurotic heredity, etc., have seemed to be important.

The difference between my early and late observations are to be accounted for by increased experience in obtaining information. As I have said in other communications, it is important that any question relating to the previous moral character of the patient should be asked with a positiveness demonstrating that a truthful answer is expected. In many instances the existence of syphilis will not be admitted to the family physician, while the consultant or specialist finds no difficulty whatever in eliciting the truth.

The vast majority of ataxics are males. This fact would seem to negative the syphilitic history, for while syphilis also predominates in that sex, it does not do so in the same disproportion as does the disease under discussion. On this point I have only to say that the accessory causes cannot be as active in women as in men. In all my later female ataxics a syphilitic history was obtainable.

When we come to study the clinical phenomena of ataxia, and study them in their pathological relations, we find that they can be accounted for only by the existence of a widespread, constitutionally-acting cause. Not only is this so in one case, but in all. Then, too, notwithstanding the apparently great symptomatic differences presented by different cases, careful analysis enables us to systematize the phenomena to such an extent that we realize that these differences are more apparent than real, and depend for their existence upon the especial portion of the nervous system to bear the early brunt of the disorder.

The failure of antisyphilitic treatment to cure cannot be

urged as a very strong argument against the syphilitic origin of ataxia. Pathologically we know the disease to be a parenchymatous degeneration of nerve tissue; and we know that these parts, when once destroyed, are incapable of repair. Hence, although antisyphilitic measures may, as they frequently do, retard, or even stay, the progress of ataxia, they never cure. Möbius refers to ataxia as "metasyphilis;" as a disease which *must always* be preceded by syphilis, but in which the ordinary antisyphilitic measures fail of benefit.

The characteristic clinical features of ataxia, *i.e.*, the individual symptoms and their progressive course, are suggestive of a single cause, syphilis again being strongly suggested as that cause.

In years gone by, many of us held the view that locomotor ataxia sometimes followed typhoid fever, diphtheria, and others of the acute infectious group of diseases. Opinions on this subject have undergone a great change, since pathological investigations have demonstrated that these cases of so-called ataxia are in reality examples of multiple neuritis.

The so-called hereditary cases are now well known to be examples of an entirely different disorder, namely, Friedreich's disease.

Leaving, now, the etiology of locomotor ataxia, the study of its symptoms presents itself. In this connection matters relating to diagnosis may also be considered. As a rule, I find that the patient complains first of poor health, giving but little time, until questioned, to particularize his complaints. Such symptoms as neuralgia, rheumatism, weakness, easily tired and nervousness are usually referred to. If the temperament is highly neurotic, the manner of the patient may well suggest hypochondriasis, neurasthenia, or hysteria. When, however, inquiry is made as to the character of the pains, vague expressions lose their indefinite character, and we hear of pains of lightning-like severity and duration, coming at any time, and in any place. Such pains constitute the earliest subjective symptom of ataxia. It may be, indeed, that they exist for years without their true character being recognized, the patient's self-made diagnosis being accepted in routine practice.

A history of lightning pains leads me to look at once for the condition of the knee-jerks, the Argyll-Robertson pupil, the static ataxia, and the paretic bladder, the coterie of symptoms which make a diagnosis of ataxia an absolutely correct conclusion. The only case I myself can recall having seen in which these characteristic pains were absent was one in which the knee-jerks were preserved.

The knee-jerks I have always (until to-day) found absent in ataxic patients. This symptom is to be regarded as of great diagnostic importance. With active knee-jerks, I hold that a most careful investigation of the case is required before admitting it to the category of ataxia. In the exceptional case just referred to, the knee-jerk was weakened, and did not promptly follow the blow on the ligamentum patellæ.

The pupillary disturbances of ataxia are not always observed, by any manner of means. The most characteristic of these is the Argyll-Robertson pupils, which I have found clinically in the disease under consideration and in general paralysis of the insane.

At the time the three symptoms above mentioned are present, one nearly always finds the characteristic disorder of movement. In many instances the ataxic gait or the static ataxia must be sought for to be found; in others it is sufficiently obtrusive to constitute an important source of complaint. In any event it is to be regarded as a corroborative rather than as an essential symptom. It is a lack of appreciation of this fact that has led to many diagnostic errors. The common name of the disease, "locomotor ataxia," impresses upon practitioners the idea that ataxia is "the" symptom of great importance, while in reality that phenomenon is frequently absent in the early stages, and is not an uncommon accompaniment of a variety of nervous affections.

Bladder disturbances are frequently encountered in the initial stages of ataxia. The trouble usually shows itself in deficient expulsive power, which, if there is a history of gonorrhœa, is wrongly interpreted to be the result of mechanical urethral obstruction.

Anæsthesia of the extremities is a very common symptom.

It has even happened that it is the symptom which drives the patient to the physician for relief. It has seemed to me that cases in which the anæsthesia is a source of great annoyance are those which progress the most rapidly, and that aggravation of this symptom is attended or followed by aggravation of the whole case. The same remark applies with less force to the lightning pains, a fresh accession of which sounds a warning of other ills to follow. The onset of an intercurrent illness seems to bring on anew the lightning pains which have been quiescent.

While the eye-symptoms of ataxia, the optic-nerve atrophy, and the ocular palsies are far from uncommon, it is my experience to have met with them but seldom. This is explained by the fact that such cases generally consult the oculist rather than the neurologist. It is an interesting observation that cases in which optic-nerve atrophy constitutes an early symptom are not likely to progress to a high degree of ataxia. The ocular lesion nearly always proceeds to complete blindness, but the spinal symptoms become non-progressive.

Diagnostic errors as to locomotor ataxia arise from two sources. The first and most commonly encountered is insufficient investigation. While the patient complains of the pains, and is able to describe them accurately, he usually refers to them as rheumatism, and his explanation is accepted without investigation by his physician. The other source of error lies in a misconception as to what constitutes locomotor ataxia. It must be borne in mind that the ataxia is by no means an early symptom of the disease, and yet it is generally regarded as the most important, probably because it has given the name to the disorder. One is well justified in diagnosing ataxia when he finds the following conditions: A syphilitic history, absent knee-jerks, lightning pains, Argyll-Robertson pupils, and a paretic bladder. Indeed, I am not sure but that I should feel safe in prophesying the onset of ataxia in a syphilitic patient whose knee-jerks had disappeared. I certainly should diagnose the disease on the association of lightning pains with absent knee-jerks.

Cases present marked differences in their rates of progress.

Some progress but slowly, or remain stationary for years. One of my cases, whose gait is anything but steady, is no worse today than he was fifteen years ago. Another case, that of a woman, was up to her last report slightly better than for a number of years. On the other hand, we meet with cases which proceed rapidly from bad to worse, going on to complete disability within a year. For a time I was inclined to regard such cases as not true locomotor ataxia, but further experience has led to a change of view. Certain symptoms seem to vary in intensity from time to time. Thus, ocular palsies not uncommonly disappear. The lightning pains may be a source of suffering for weeks, and then remain away for months. Sexual inability may be regained for a time. A paretic bladder may regain its power. Occasionally improvement is noted in gait.

The prognosis of locomotor ataxia must then be regarded as decidedly unfavorable. The disease is a progressive one. Still I am satisfied that something can be accomplished by treatment. At the outset it is important that one realizes the hopelessness of cure, and endeavors to do only that which is possible without harming the patient. Antisyphilitic treatment is permissible only in the pre-ataxic stages, when it may do good. Iodide of potassium and the mercurial preparations are alike important. One must not expect too much from them, nor must he persist in their use in the face of failure.

Absolute rest in bed, with massage, is the only means by which rapidly-progressing cases can be stopped in their course. Of the value of this measure I am convinced, notwithstanding the claims of eminent authority that absolute rest is to be condemned, because of an alleged increase in the changes in the spinal cord by the recumbent position. The attendant must protect himself, however, when he orders rest, for it may happen that the case is not benefited by the treatment, and the patient, getting up after three months' confinement in bed, may attribute his aggravated condition to the treatment, instead of to the natural course of the disease.

The symptom which calls for palliative treatment is the lightning pains. In such cases, while belladonna, nitric acid and other remedies are useful, cases occur in which physiological

medication is necessary. My main reliance for relief is acetanilid, which may be given in from five to ten-grain doses. In the majority of cases this is all that is required. Sometimes one finds that phenacetin or antipyrin acts better than acetanilid. It may be that all of these drugs fail to relieve. Then I have of late resorted to methyl blue, giving three grains of the drug in capsule each evening. Although less immediate in its results, this seems to have a more permanent effect in the way of relief than other remedies. Care must be taken that one gets a chemically pure preparation; that manufactured by Merck, and labelled "chemically pure; free from chloride of zinc," should be employed. The patient must be warned of the effect of the drug on the urine. Under no circumstances should morphia be resorted to for ataxic patients. I say this because I have seen probably a dozen cases of ataxic patients with the morphia habit brought on by the administration of the drug for the relief of the pains. It has always seemed to me that recourse to morphia for the relief of lightning pains is a most doubtful expedient. I have thus far succeeded in avoiding its use in what may be called fresh cases. There can be no doubt that morphia will prove efficient in giving relief; but it is almost certain that its repeated administration must bring on the morphia habit.

Exercises carefully supervised seem to have some effect in reducing the ataxia. It is a good plan to draw some simple figure on the floor, after which the patient endeavors to trace out the lines of the same with each foot in turn.

Suspension I have never tried. Whatever benefit follows this measure is probably the result of suggestion.

With hydrotherapy I have had but little experience. The application of hot-water bottles to the lumbar spine has been recommended as a means of relieving the lightning pains, but this measure has not proven satisfactory in the few cases in which I have tried it.

Electricity in the shape of galvanism to the spine and the faradic brush to the anæsthetic parts seems to do considerable good in slowing the course of the disease. Faradic stimulation of the skin certainly brings temporary relief of anæthesia and improvement in walking.

The most efficient medication in locomotor ataxia is that which treats symptoms and conditions as they arise. In the absence of other than the characteristic symptoms which constitute the clinical picture of the disease, *argentum nitricum* 3x and the *chloride of gold* and *sodium* 2x will be found the most generally useful remedies, although *phosphorus*, *zinc*, *picric acid*, *nux vomica* and *strychnia nitrate* are by no means to be ignored.

THE ACUTELY UNCONSCIOUS.

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One of the problems frequent in hospital work and occasional in private practice is the finding of a patient unconscious, with or without an injury, and often with no obtainable history, or with but scant information inadequate for diagnostic purposes. It is therefore of importance for us to have fixed in our minds certain diagnostic principles which can be promptly and methodically applied for the early interpretation of such cases.

The factors are sometimes simple and a correct conclusion is easily reached; sometimes multiple, and a diagnosis is difficult or impossible. The more difficult cases are usually those in which, in addition to unconsciousness, there is also a traumatism, and in these cases the vital question is, Did the trauma cause the unconsciousness, or did a primary unconsciousness cause a fall, with injury resulting therefrom? A correct solution of this problem is frequently the means of saving life. It is clearly the first step to get every detail and circumstance obtainable—often the slightest clue will serve in differentiation. The extent and character of the wounding may throw some light on the problem, but this cannot offer more than presumptive evidence. The presence or absence of paralysis or convulsion, the state of the reflexes, the condition of the pupils, the odor of the breath, the character of the urine, the temperature, the depth of the unconsciousness, the condition of

the tongue (as to recent cuts and old scars), and the condition of the heart and arteries should be immediately noted, as it is by a proper consideration of these objective conditions that a diagnosis is to be reached.

I say proper consideration, because some of the evidence may be fallacious and misleading. For instance, the detection of an alcoholic odor may not mean alcoholism, because the drink may have been a coincidence, or else given as a remedial measure for some graver condition. Albuminuria does not necessarily imply uræmic coma, because Bright's disease is often coincident with cerebral hæmorrhage; contracted pupils do not infallibly point to the coma of opium, for we often find such pupils in uræmia and other irritative brain conditions. Thus it is clear that the information derived from a consideration of but one symptomatic feature is only relative in value, and that consideration must be given collectively to all of the conditions which have just been mentioned. As a type of the difficulties referred to I condense the record of the following case:

Unknown man, about 65 years, brought in unconscious by patrol; an empty three-ounce laudanum-bottle in his pocket, and a contused wound of his left eyebrow; could be partially aroused, but his talk was incoherent and he immediately lapsed into stupor. Had this been all, the question would have rested between opium stupor and traumatic brain affection, without localizing symptoms. Perhaps we would also have considered post epileptic coma, meningitis, the apoplectiform signs of chronic insanity, and uræmic or diabetic coma. But he had a left-sided hemiplegia. This symptom aided in excluding some of the above-mentioned affections. Had he been poisoned by laudanum? Because of the circumstance of the empty bottle his stomach had been promptly emptied, without result. There was no odor of opium; the pupils were only moderately contracted. His wife coming in opportunely, stated that he had been an opium habitue, and that he had emptied the bottle two days before admission to the hospital, and that the doses were no larger than he customarily took. At any rate, opium does not cause a hemiplegia, and even without the wife's ex-

planation we would have looked elsewhere for an interpretation of this symptom, and that elsewhere would be his injury.

That the hemiplegia was not an old one we knew by the absence of rigidity and the fact that the knee-jerk on that side was not increased; also by the appearance of his shoes, which were equally worn. Now, did he by falling fracture his skull or induce a meningeal hæmorrhage? Or has this been a deep cerebral hæmorrhage, with a consequent fall and head injury? Or has the *contre coup* of a fall caused a hæmorrhage in or near the internal capsule? The process of reasoning in this case was:

I. If the hæmorrhage is cortical from head injury the lesion must be large enough to take in the entire rolandic region, because of the distribution of the paralysis.

II. Such an immense lesion would cause very stormy brain symptoms, deeper coma and more convulsive phenomena than the patient presented.

III. Is it not probable that there was some reason for his use of laudanum? Was it not most likely for relief of the headache of some vascular disease which is apt to terminate in cerebral hæmorrhage?

From the general facts here briefly stated it was believed that this man had a hæmorrhage in the right internal capsule, and that in falling he cut his scalp. A post-mortem verified this opinion.

Opium cases are comparatively common. When in coma they are completely relaxed, usually with snoring respiration, and pupils conspicuously small. In this state the patient usually presents a ghastly pallor. These finely contracted pupils are usually regarded as characteristic, but I have observed an equal degree of myosis in two cases of uræmic coma. Such pupillary contraction also is present in hæmorrhage into the pons, but this is usually rapidly fatal.

Patients are found comatose after having had a perhaps unobserved fit, and the diagnosis in this post-epileptic coma is not always as easy as it would appear. We may obtain evidence of convulsions by finding a scarred tongue. The color of the face, which is regarded as pathognomonic by some, is not to be relied upon.

The coma of uræmia, in the absence of history, can be excluded by urinalysis. But the converse does not hold good, for the presence of albumin and casts is clinically not oftener present in uræmia than in brain hæmorrhage. The two conditions can usually be differentiated, however, by the age, the pallor, the pulse (usually rapid in uræmia, slow in hemorrhage), perhaps the difference in the degree of unconsciousness. In some we can detect in the breath what is called a "uræmic odor," which is considered diagnostic.

The apoplectiform attacks of paralytic dementia closely simulate cerebral hæmorrhage. In the several cases seen by the writer a differentiation would have been impossible without history or autopsy.

The coma of thermic fever is usually profound. Breathing is apt to be rapid and shallow, with a tumultuous heart-beat. Most cases seen by the writer have had alcoholic breaths. The temperature is always elevated, 110° being not uncommon.

In one instance, in July 1896, an axillary temperature registered 111°, and a case seen about the same time presented a rectal temperature of 112°. These temperatures were estimated by gauging the distance which the column of mercury rose above 110°, the highest marking on an ordinary thermometer. Both cases recovered.

The presence of sugar in the urine invites a suspicion of diabetic coma. In this there is a peculiar odor from the mouth which is described as "fruity." Von Jaksch believes this coma to result from the presence of diacetic acid, and not to be diabetic at all in its etiology.

The coma of meningitis is usually the forerunner of death. In this there is a slow pulse, in contrast with a rise in temperature. Often a retracted abdomen, twitchings, rigidity of neck muscles, pupils contracted or dilated, strabismus.

Lastly, we have the perplexities of a common drunk, which are often by no means easy to unravel. The fact that liquor is given and taken as a universal panacea diminishes the significance of its detection on the breath or in the stomach. These cases often fall, and are cut and bruised about the head. Delirium tremens is frequently diagnosed off-hand, when

another of the conditions already reviewed is present, masked, perhaps, by drink. Alcoholic coma is often very deep, and its diagnosis should never be left, as is usually done, to the primitive skill of the police. The stimulus of the faradic current is an aid in the diagnosis of alcoholic unconsciousness.

INTESTINAL WORMS—CEREBRO-SPINAL SYMPTOMATOLOGY AND TREATMENT.

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WITHOUT any attempt to present to the Society an elaborately prepared scientific paper, I beg leave to present under this title, for consideration, but few of the twenty-one varieties of animal parasites known to inhabit the intestinal tract of man. The ascaris lumbricoides or round worm, and the species tænia or tape-worm, are acknowledged to produce most of the irritative symptoms usually attributed to worms, and hence give rise to the cerebro-spinal symptomatology to which it is the object of this paper to call attention.

The ascaris lumbricoides is by far the most common of the human parasites, and while much more frequently met with in childhood, it is by no means uncommon in adult life. In appearance it very closely resembles the common earthworm; it is from five to thirteen inches in length, cylindrical, tapering at both extremities, and of a light pinkish-gray color. The female is the longer of the two sexes, and the oval eggs exist in great number, sometimes causing intestinal obstruction from the accumulated mass. The life history of the ascaris lumbricoides is not as yet fully understood, the experiments of Epstein proving that they can be developed outside the body as well as within. They most frequently inhabit the smaller intestines, but possess a most peculiar and remarkable power of migration. Entering the stomach, they are sometimes ejected by vomiting; at times they are withdrawn from the pharynx, and occasionally from the nose. These worms rarely exist solitary, and Dr.

Osler reports a child under his care having withdrawn thirty from the pharynx in a few weeks. They have been known to pass through the eustachian tube into the middle ear and to be extracted from the external meatus. Passing into the larynx, they have caused fatal asphyxia; entering the trachea, have produced gangrene of the lung. Jaundice has been the result of their entrance into the bile duct, and hepatic abscesses have resulted from their entrance into the smaller biliary channels. They have penetrated the pancreatic duct, the splenic vein and the vermiform appendix. They have perforated both healthy and ulcerative intestines, and great numbers have been discovered in the cavity of the abdomen. They have also produced fatal peritonitis, and have been discovered in umbilical abscesses.

A deeply interesting case came under my observation less than a year ago. L. W., a girl, aged ten years, was presented to me for treatment, complaining of colic, some tympanites, variable appetite, restlessness, marked irritability, picking at the nose, convulsive twitchings of face, disturbed sleep, grinding of the teeth, and a most annoying cough at the close of every sentence when speaking. After several prescriptions without relief, I was ready to abandon the idea of worms, but before doing so concluded to prescribe santonine. The remedy was exhibited in two powders, two grains each, triturated with sugar of milk, one powder every three hours, on an empty stomach, followed by a mild laxative. The result was most happy. Three worms were expelled from the rectum, and one thirteen inches in length withdrawn from the nose—larger than is usually reported; after which the patient steadily improved, and a cure of her nervous symptoms resulted.

Another interesting illustrative case was that of F. R., a young girl fifteen years of age, whom I was called to see while resident physician at the Children's Hospital. She was of a poor family, surroundings bad, and lacked proper diet; found her suffering intense periodical pains in the intestines, as though something were biting her, she expressed it. Abdomen very much distended, a great variety of nervous symptoms manifesting themselves. Hysterical seizures, followed by convulsions, violent headache, diarrhœa; patient was anæmic,

periods of menstruation were irregular, urine more profuse than usual; in fact, I was led to think seriously of some organic disease, possibly some kidney involvement, and the doubt was only cleared by a careful examination of the urine. The diagnosis of her condition was indeed anything but satisfactory to myself. There was no positive evidence of the existence of round worms; the arms were in constant tremor, the legs but slightly so affected. The case at this time appears quite interesting; at that time it was quite perplexing. Santonine, however, was suggested to me, and prescribed in two-grain powders every three hours, accompanied by large rectal enemata and the prohibition of anything but low diet. The result was the astonishing passage of eight worms of variable size and the amelioration of all nervous phenomena. Sulphur succeeded santonine as the remedy for a long period of time, and the patient has never had a return of her convulsive seizures.

I would like to call attention to one more case, on account of the several points of value it presents relative to the cerebro-spinal symptomatology produced by the presence of the ascaris lumbricoides in the intestinal tract. A boy, J. M., aged thirteen years, contracted whooping-cough, for which the indicated remedies were unavailing. The symptoms were, to my mind, of the indefinite order. The breath was fetid; great thirst; at times voracious, at times loss of appetite; hunger at times would ensue immediately after eating; spasmodic convulsive movements of the whole body; the voice appeared to be altered; there was a copious flow of the salivary secretions, nausea without vomiting, violent pains in the head. Before contracting the whooping-cough the parents had treated the boy for worms, using the various worm-syrups, vermifuges, etc., without relief. To this I paid but little attention until I was shown the worm the boy passed in bed during the night, and immediately changed my prescription to santonine. Several more worms were passed at once, and the whooping-cough promptly succumbed to treatment.

These are but few of many cases in which certain cerebro-spinal disorders are maintained by the presence of worms, while relief is positively synchronous with their expulsion.

Cestoides, the tape-worm—segnitia arising from raw beef, mostly in children, and solium from pork, mostly in adult life —are the only two we shall consider, and all under one head. Cestoides, are usually introduced into the body by the ingestion of food containing the larvæ of the worm, and, finding suitable soil, at once begin their rapid method of multiplication, taking about four months to maturely develop, and from that time the segments separate and are discharged in the fæces, new segments continually forming next to the head as the old ones are cast off, the maximum length of time that this process continues being estimated at thirty years. Each segment contains within itself both the male and female functions, and each mature segment is estimated to contain upwards of 50,000,000 eggs. The cestoides vary very much in length, the average probably being twenty feet, although I have had one patient who passed one sixty feet in length; and they are liable to occur in all ages except, rarely, nurslings. Dr. Van Gunten, of St. Luke's Hospital, removed one twelve feet in length from a child two and a half years old. Of course, the only positive evidence of the existence of a tape-worm is the passage of the segments, which discharge may occur either singly or in groups. The head is very small—about the size of a pin-head—and provided with four sucking-disks and two hooks. W. T. Plant, according to Osler, refers to a number of cases in children under two years of age, and one case is recorded in an infant five days old. By some there is a striking uniformity observed in the symptoms due to the presence of worms, giving a peculiar physiognomy to the case, and many nervous symptoms, particularly remarked by Dr. Heslor, illustrate the phenomena of a representative case of vermination in the adult. The face is pale; complains of dull headache, not limited to any particular region of the cranium, probably most marked in the frontal region, but without any marked exacerbations or remissions, yet constant, but not excruciating, still sufficiently severe to make life unhappy and at times a burden. Choreic symptoms are often manifest; epileptic seizures have been known to be the result; convulsions not uncommon. There is dulness of vision; at times giddiness, causing one to stagger as though he were

intoxicated. In women mental depression, even approaching hypochondria, nausea, and at times vomiting. Diarrhœa is sometimes present, and the knowledge of the existence of the worm is at all times a very great source of worry and anxiety.

The breath is very bad; there are violent colicky attacks; an inordinate and capricious appetite; grave and pernicious anæmia; a feeling of confusion and insecurity, rendering walking a serious effort; the ears are affected with buzzing and a great variety of indescribable noises.

A young man, seventeen years of age, presented himself for treatment, displaying many of the symptoms already recorded, but the diagnosis was doubtful until the presence of segments and the distinctive ova was detected in the stools. In this case the nervous disturbance predominated, the convulsive movements being of an epileptiform character; there was an absence of the signs that would lead me to think of any particular brain lesion, but nightmare, pruritus ani, discoloration around the eyes, irregularity of pupils, and a train of such symptoms, which were treated symptomatically until the discovery of the segments in the stool; then the attempt was made to remove the cause, for how ridiculous it would have been to continue the treatment of the symptoms of cestoides, leaving the cause securely fortified in the intestinal tract. Careful attention is always given in these cases to prophylaxis; it is very important; the tape-worm segments must be burned, never permitting them to be thrown in the water-closet or yard; the soil must be so altered that the propagation of the worm will be impossible; the diet must be carefully prepared, the meat well cooked; uncooked fruits and vegetables, salads, pork, sausage, were strongly prohibited; careful attention to personal sanitation was required, cleanliness, washing and cleaning the finger-nails. The administration of the tenicide was preceded by fasting and by mild laxatives until the bowels were well emptied; a light supper of bread and milk was allowed; at bedtime, *one-half* drachm of male fern was administered; this was repeated in the morning, followed by castor oil, ℥j, and the following day I examined twenty feet of worm, but after floating the stools in water and carefully examining I was unable to find the head. This

case was extraordinarily obstinate, and required great patience and perseverance in treatment. To secure the head a number of vermicides had been resorted to, spigelia, pomegranate root, pumpkin-seed and rottlera (kam'ala), but with the same result attributed to the male fern. In some cases I had learned that combination remedies acted well, and I determined to resort to the method of Dr. Brunton of combining in equal proportions male fern, ʒij, and the pulverized kam'ala, ʒij, one-half of the prescription to be taken at bedtime and one-half in the morning. Following the previous rules given as to diet, the result was most satisfactory, as, by an examination with a fairly powerful glass, I discovered the head attached to fifteen feet of the worm. I select this case from a number that I have had because of its obstinacy, and to call attention to the fact that it is impossible to be certain of a cure unless the head of the worm be found, although it sometimes does escape notice in the evacuations, when a period of at least eight months must elapse before the cure can be pronounced complete.

Now a few words in conclusion. A number of very peculiar neurasthenic conditions have been recorded by many observers. Krause reports the case of a young man who for years had violent paroxysms of involuntary laughter, followed by chill, relieved only by lying flat on the abdomen. None of his previous advisers questioned the presence of the worm. The administration of efficient remedies immediately relieved him. Girardy mentions a case presenting some very singular symptoms, the most important being his inability to walk over any article, however small, even a sheet of paper; and any attempt to conquer the trouble would result in loss of consciousness, relieved at once by remedy. Moennick records the case of a little child, suddenly attacked with paralysis of the lower extremities and strabismus, relieved after the administration of vermifuges and the passage of eighteen ascarides. Dr. Brunton makes mention of a man subject to serious epileptic convulsions, thought to have resulted from an injury to the head; but positive cure resulted after the administration of an anthelmintic and the passage of nearly forty feet of worm. Dr. Heslop reports that many of his own

cases give a history of convulsions in connection with worms, the most violent hysterical cries being often observed, even genuine epileptic seizures occurring. Dr. Fleming, of Birmingham, England, observes that the patients may often be recognized on entering the consulting-room by their trembling gait and hands, staring eyes and hesitating manner. My own observations, covering a period of seven years of careful record-making, during which time a number of cases have received treatment, lead me to summarize as follows: In nearly all cases of intestinal worms peculiar, distressing, and at times serious nervous phenomena arise, often misleading to the diagnosis of some more prominent organic disease; that convulsions are not an uncommon occurrence, even leading to the suspicion of the possibility of epilepsy; general muscular weakness, severe headache, ringing in the ears, dark spots before the eyes, anæmic conditions are apt to direct the attention of the physician to the kidneys or other organs rather than to the seat of the disease. Finally, that the cerebro-spinal symptomatology, due to the presence of intestinal worms, is deserving of careful attention.

SENILITY, WITH ESPECIAL REFERENCE TO THE CHANGES DEVELOPING IN THE CIRCULATORY ORGANS, THEIR EXCITING CAUSES AND SYMPTOMS.

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THE observation of an English pathologist that "a man is as old as his arteries," or words to this effect, expresses a relationship of the vascular system to the general progressive degeneration accompanying advanced life which is becoming better appreciated from day to day by the thoughtful investigator. This important truth has evolved from the researches of the pathological anatomists of the past few decades who, with the scalpel, microscope and reagents, have been penetrating into

the obscure mysteries of disease with such astonishing success. They, with the help of their physiological brethren, have demonstrated the close relationship of the vascular tissue, in its nutritive state, to the integrity of the circulating fluid, and the marked influence of artero-capillary degeneration upon the nutrition of the tissues and organs. How such an intimate relationship as exists between such a variety of affections and changes in the vascular structures could have remained unsuspected and undetected for so long a period of time is, from the standpoint of present knowledge, a subject for surprise; and, further, that even at the present day a knowledge of vascular pathology and of the widespread influence of vascular degeneration should be a subject of interest to so few.

Old age, which most of us look forward to with dread, is most intimately associated with progressive degenerative changes in the heart and vascular system. We are unable, as yet, to state that this condition is the primary feature of senility, as we do not yet possess full information as to the changes which continued life is developing in the blood and blood-forming organs. The body processes are so dependent upon each other, and we still are in need of so much information concerning many of them, that we cannot yet, and perchance never will be able to single out impairment of a single function as the primary departure from the normal standard, and as initiating the succession of changes terminating in senile death. It will prove a consoling thought to some that we have high authority for the belief that all, however advanced in life, die from the ravages of disease, and not from degeneration dependent upon mere duration of life. Observers of this class do not recognize in senile decay the cause of life's termination, but rather a predisposing factor giving to the workings of disease an easier task. While it appears true that but few persons succumb purely to the life-limit apparently set for us, yet we are constrained to exclaim, in the language of the inspired poet: "The days of our years are threescore and ten; and if, by reason of strength, they be fourscore years, yet is their strength labor and sorrow, for it is soon cut off, and we fly away." Nothing is to me more certain than that from the

acme of life until its close—aye, from the cradle to the grave—degeneration progresses hand in hand with anatomical and physiological development, and necessarily terminates in decay and death.

In early life the tissues are veritably gorged with nutritive fluid, favoring rapid nutritive changes and growth. This is the result of the relatively low blood-pressure and high degree of activity of the heart (rapid pulse-rate), favored by arterial trunks which are large in proportion to the size of the heart and the length of the body. The blood-circuit is accomplished in about one-half the time required for the adult. With continued growth and the development of adult life the relationship between the heart and bloodvessels undergoes a change. The arteries become relatively smaller, the heart larger and stronger, with the necessary result of a higher blood-pressure and slower pulse-rate. Through the period of early adult life little change occurs, and man is at his best in his capacity for mental and physical effort; but with what we term "middle life" there appears the first evidence of change in the structure of the cardio-vascular walls, which slowly diminish in elasticity, ultimately becoming more or less rigid tubes. The capillaries also share in the process leading to obstruction of their lumen and reduction of their number, with a corresponding impairment of tissue-nutrition. The altered arterial trunks, dilating before the waves of imprisoned blood, return less and less perfectly to their normal size, with the result of permanent dilatation. The changes developing in the arterial system with the progress of age, in part, at least, form no exception to those occurring in the general tissues. These, from the earliest to the latest period of life, undergo a continuously increasing condensation, resulting, in advanced age, in the dense and fragile bones, the stiffened and feebly-acting muscles, and the shrivelled, loose and dry skin. The impaired glandular structures secrete imperfectly, the blood is diminished in quantity and deteriorates, and all functions are feebly and more feebly performed, until at last man, worn out by living, sinks to rest.

It must be evident to every student of the subject that our development is indissolubly linked with degeneration, and that

decay is man's final and necessary estate; that degeneration is the ultimate of development. Many views have been held concerning the cause of what we may term the normal progressive degeneration incident to advanced life. Prominent among these are loss of vital force, impaired blood, disorder of various organs, etc. As to its dependence upon a loss of vital force, we may comment, that it is a wise provision of nature that we are endowed with potentialities, not a given store of power which is expended to a finish, and that progressive investigation is confirming the doctrine that senile degeneration is not due to failure in the sources of potential energy, but to alterations in the tissues rendering them incapable of appropriating the materials offered them.

It is a fact of especial practical importance that the tissue-changes peculiar to senility may be, indeed often are, developed prematurely, presenting a condition for treatment. Man's development being a physiological process, it is more nearly related to normal tissue-changes than to periods of time, consequently terminal changes are not due at a sharply-defined age. The heart, like the brain, is better preserved from decay than the general tissues, which explains the remarkable preservation of the functional activity of these organs in advanced life. The heart does not share in the general atrophy of the tissues incident to old age, but hypertrophies, enabling it to overcome the increased resistance age develops in the blood circuit. The influence of the obstruction is thus in great measure overcome. Not only is this true, but a heart which has been impaired in strength may, in consequence of this hypertrophy, greatly improve.

Senile cardio-vascular degeneration increases very slowly, and usually without attracting the attention of its possessor until the heart is called upon for an unusual exertion. It proves unable to meet the demand, the myocardium yields to the increased intra-cardiac pressure, and dilatation, the greatest enemy of the senile heart, is developed. This demand upon the heart may develop very gradually, as from increasing arterio-sclerosis, although we must not overlook the fact that this lesion may progress with relatively great rapidity, even in

early middle life, leading to permanent reduction in the capillary area. In considering the influence of the heart and arteries in the production of circulatory obstruction, and the resulting weakened heart, we must not overlook some accessory conditions, notably certain blood changes, especially plethora and hydræmia; reflex vascular contraction; and, very important, the condition of the tissue canals as to their degree of distention—a factor long since recognized by Donders, but of which little notice appears to have been taken.

The greatest danger to the subject of senile degeneration is loss in the heart's power, which sooner or later must result. A consideration of the causes which accelerate this inevitable result may be of profit. Failure of the degenerate myocardium with development of symptoms attracting attention to the heart not infrequently follows upon unusual or severe physical exertion. This may be in the nature of violent exercise demanded by some serious emergency, as an accident, or, often, to the doing of some work the individual is not accustomed to, involving considerable and unusual effort. I have had regularly under my care for several years a number of persons whose degenerate condition was, in consequence, known to me, who have developed the first symptoms attracting attention to their hearts during or soon after running for a train, walking against a severe storm of snow and wind, indulging in unusual athletic exercises with injudicious violence, etc. Allow me to illustrate. A clergyman of sedentary habits who had rigid arteries, slight enlargement of the heart, and the various evidences of arteriosclerosis, but who had been in general good health, barring an old dyspepsia, being something of a "Jack-at-all-trades," assisted somewhat in the building of his new house. It proved the undoing of his heart, for enfeeblement of the ventricular systole, with marked arrythmia, was the result. He died soon after the primary chill of a pneumonia, some eighteen months later.

A manufacturer, a large, well-developed man, who considered himself strong and well, but who was a dyspeptic and lithæmic, with evidences of arterial degeneration and rather feeble heart, was forced to walk two miles against a severe storm of wind and snow. It was followed at once by dyspnœa,

and feeble and irregular pulse. His condition has much improved after about one year of rigid treatment.

I have seen a sudden development of symptoms of cardiac failure in the senile without an apparent cause. A lady of 59, who has been a patient of mine for several years, complaining of gouty symptoms (she belongs to a highly gouty family), without the slightest traceable cause suddenly developed feebleness, intermittence, and irregularity of the heart's action, with oppression of breathing and an ever-present consciousness of a heart. She is at present under treatment, with as yet little improvement.

I have not met cases of heart failure from excessive emotion, although there can be no doubt but that it sometimes occurs. It seems to be a generally accepted fact that excess of emotion of any sort, but especially that arising from joy, exercises a high degree of influence over the cardiac function, even to the production of sudden death.

Excessive "wear and tear," so common in our rushing age, and the ever-present annoyance of an unsuccessful life, through inhibition of the heart and disturbance of nutrition, contribute daily toward the shortening of life. Sexual and dietetic excesses favor the same result. The latter provokes dyspepsia, disorder of the hepatic function, lithæmia, plethora and gout. The latter, and syphilis and alcohol, are especially influential in the production of vascular degeneration.

Acute and chronic disease processes operate in various ways to break down the degenerate heart. All, more or less, still further weaken the impaired heart through exhaustion of nerve power and impairment of nutrition. Reflex inhibition of the heart with intermission and arrythmia is sometimes observed in the old, apparently independent of lesions in the heart, and is apt to be associated with disorders of the digestive apparatus. If the intermissions are frequent or persistent the symptoms assume importance, for they lead to loss of heart power, and we can never be certain that the heart and arteries are really free from some degree of degeneration. One is sometimes surprised by the post-mortem evidences of vascular degeneration which had not been suspected during life. This

reflex disturbance is much more common in the young. During the past year I have seen two very interesting cases of this character, both with Dr. C. R. Norton, of Philadelphia. Both were young ladies, one eighteen, the other twenty-two years of age. One was a hard student, and the trouble developed soon after leaving college. The other was still at school. In neither was it certain from what organ the reflex came, but there was not the slightest evidence of organic disease of the heart to account for the symptoms. Both have slowly improved.

With these general prefatory remarks, relating in the main to the causation of degeneration as met in the heart and arteries of the old, I will call your attention for a short time to some of the symptoms. Under neither heading have I attempted completeness, but to do no more than call attention to some things that have interested me.

If asked, "What symptom most frequently calls attention to a senile heart?" I should reply, "disordered action." At least this is the symptom which attracts the patient's attention most frequently, and leads him to seek advice. It takes the form of arrythmia, in some form, or intermittence. The patient may not have discovered this disorder, only a "continual sense of a heart." Such persons often come with the statement, "There must be something wrong with my heart," or, "My heart is excited, of late." Most intelligent persons, however, detect irregularity or intermission if they exist.

We must not be in a hurry to pronounce a heart degenerate even if intermission is a long-continued symptom. I had under my care for twenty years, at intervals, an easy-going manufacturer whose pulse, to my certain knowledge, was intermittent for that length of time, and he assured me that he had himself discovered it some years previous to my first knowledge of him. He recently died at seventy-one years of age, from Bright's disease of the sclerotic variety. His heart presented some hypertrophy, especially of the left ventricle, and the arterial tension was increased; but the arteries were not markedly rigid or tortuous, and these changes developed during the last years of his life in connection with his Bright's disease. During all the years of intermittence his health had been exceedingly good,

he never having had treatment except for slight transient ailments. It is rather remarkable that the long-continued intermittency in his heart's action had not resulted in dilatation years before the cardiac changes incident to age and his renal disease developed. Another gentleman, sixty-two years of age, recently seen by me for sudden cardiac break-down, who at the time of its occurrence was in full, active business, rode a bicycle, and, indeed, considered himself quite an athlete for a man of his years, illustrates the fact that considerable degeneration is not incompatible with activity and all the outward evidences of good health. He had long been a subject of uricacidæmia, had some hypertrophy of the heart, arterial rigidity, and excessive urination. His physician, Dr. W. C. Powell, had repeatedly warned him to desist from his violent exercises, but without result. While pushing his wheel over the hills of his neighborhood, recently, he became giddy, had momentary loss of consciousness, and fell to the ground. The heart has been exceedingly feeble since this attack, is arrythmic, and intermits. There is also a very slight degree of left hemiplegia, vomiting, without loss of appetite, occurring easily after any exertion, and in the early morning. The urine has become scanty, slightly albuminous, and contains a few hyaline casts. We have in this case an arterial system degenerating from long-continued uric-acid poisoning, but keeping up a satisfactory circulation until the hypertrophied and dilating heart was further dilated by injudicious exertion, when the heart broke down and a small extravasation took place within the cranium.

Aside from its significance as a symptom, intermission of the heart, if long continued, almost certainly leads to dilatation, and is therefore to be invariably considered seriously. It lessens the heart's efficiency, but not its work, which is increased in consequence. The serious outlook, other things being equal, is in direct ratio to the frequency of the intermissions. The heart must possess considerable reserve power to negative the influence of frequently-repeated intermissions (a case of this character I have already reported); and, *per contra*, infrequent intermissions produce a marked dilating influence upon hearts

already highly degenerate, or upon simply weak hearts, if the feebleness is of high degree. To the senile heart especially it adds an element of danger acting along the same line as the other important factors, viz., increased tension in the systemic circulation, impaired expulsive power of the ventricles due to the weakening of their walls; and, often, inhibition of the heart, which may have various sources of origin, and very considerably decrease the output of the heart with each systole of the ventricles.

Disturbance of the orderly succession of ventricular contractions—of the heart's rhythm—arrythmia—is an exceedingly common attendant upon senile changes in the arterial system. The state of the blood exercises an influence in the production of arrythmic disorder of the heart, often felt by the degenerate heart. Anæmia in its various forms, particularly hydræmia, is most important. Persons, subjects of this condition, who appear to be free from heart disease, easily develop intermittence from over-exertion, and this may be associated with disturbed rhythm. The ease with which intermittence or rhythmic disorder is developed is of value in forming prognostic conclusions, suggesting much regarding the state of the heart-muscle and blood.

The force of the heart's contractions may vary, which condition is often associated with arrythmia. The full beats, which are readily recognized, especially in the sphygmographic tracing of the pulse, are the product of coincidence of the auricular and ventricular systoles.

Palpitation, slowing of the heart-rate (bradycardia), and paroxysmal hurry of the heart (tachycardia), are occasionally met as symptomatic features of the senile circulation, but, like the symptoms already considered, are not peculiar to the latter portion of life. These, with tremor cordis, and delirium cordis, require some comment.

I do not observe palpitation in association with senility very frequently; it is more common in the young. A year since I saw a senile carpenter who suffered much from palpitation, also from tachycardial attacks. The left ventricle was dilating, a systolic murmur finally appeared, and he died from asthenia.

He was anæmic and dyspeptic, but had never suffered from palpitation prior to his senility.

In reference to slow heart there is more to say. It is, perhaps, most important to keep in mind that slow pulse does not always indicate slow heart. This error is avoided by counting the heart's pulsations at its apex as well as estimating them by the pulse. In simulated or false bradycardia a certain number of the blood-waves do not reach the wrist. Some experiences of my own corroborate a statement I have somewhere read, viz., that in elderly people a development of true bradycardia, especially if associated with any evidences of cardio-vascular degeneration, suggests beginning failure of the heart's power—anatomically, as we shall see, beginning dilatation of the left ventricle. The development of bradycardia in the senile is, therefore, to be looked upon with apprehension. Apoplectiform symptoms sometimes develop in connection with slow heart, and I have met cases in which their origin in a weak heart was not suspected. The result is disastrous to the patient. This group of symptoms must also be discriminated from epilepsy, which is frequently met in bradycardiac patients. Corvisart, physician to Napoleon I., relates that his distinguished patient's heart never beat faster than 40 per minute, and that he was epileptic.

Unlike palpitation, slow heart is very unusual in early life. The old idea that bradycardia is an indication of fatty heart seems to have been disproved. Although it may attend upon that condition, it must be due to other causes. Bradycardiac hearts, when the condition is well established, are almost invariably dilated, especially the left ventricle. The distinctive physical signs of this condition are present, and an endocardial murmur, usually systolic, may be heard most distinctly near the apex, but also very generally over the heart's region. Until late in the course of the case the heart does not give an impression of weakness. Arrythmia is seldom associated with bradycardia.

Although not immediately related to the senile circulation, I ought, perhaps, in this connection, to mention the remarkable influence of injury to the cervical spine in the production of

slow pulse. Surgeons have often observed it, and unanimously agree that the cervical spine as low as the sixth vertebra is the portion related to this phenomenon. It is highly probable that it is due to injury to the spinal accessory nerve, the lowest fibres entering into this nerve springing from the level of the sixth vertebra. It will be remembered that this nerve passes upward through the foramen magnum into the cranial cavity, where its internal portion unites with the vagus, becoming, in all probability, the motor nerve of the heart. There are many cases on record showing that injuries to the roots or trunk of the spinal accessory nerve, whether in the nature of traumatism and its consequences or of inflammation, result in slowing of the pulse to 40 or 30, and even 10 or less, in rare instances, and that such retardation may continue in some cases for years.

Tachycardia—paroxysmal heart-hurry—is much more frequently met as a symptom of senile degeneration of the circulatory organs than the slow heart. Tachycardia is used by some authors in a generic sense, covering all forms of rapid heart, even that of the new-born. It is more appropriate, however, to restrict its use to paroxysmal attacks of abnormal rapidity of the heart's action. It is a symptom which is not peculiar to the aged nor to those persons presenting evidences of senile degeneration, but it often attends this condition, and is invariably pathological in character, indicating some physical condition interfering with the circulation, or a disorder of the controlling nervous system. The idea of an essential tachycardia, which still prevails to some extent, does not seem to have proper clinical support. Because it has been the only symptom noted by certain observers in a few cases does not present sufficient reason for the recognition of an "essential" form of tachycardia. In all the cases I have seen—and this experience agrees with that of many clinicians—there has been evidence of some organic change in the heart or arteries, or a history of the previous operation of a cause of disease of the circulatory organs. Many cases have developed upon strain of the heart, especially after injudicious exercise by a middle-aged, sedentary individual. That it often develops in connection with cardio-vascular degeneration is undoubted. The exist-

ence of tachycardia calls for watchfulness, as in most cases evidences of a cardiac lesion appear within a year or two of its development. In a large percentage of the cases it is a symptom developing upon endocardial inflammation. I have collected reports of many of these cases supporting this statement. Mitral stenosis is the most frequent sequential lesion. In the older persons aortic degeneration occurs frequently. It is wiser, therefore, to consider tachycardia as invariably symptomatic, and continue to search for the exciting lesion while using measures prophylactic of cardiac inflammation. Its occasional attendance upon the early stage of development of senile vascular changes before these are readily discoverable is the practical point I especially desire to make. There is no especial comment to be made upon tachycardia as a symptom of well-developed senility except that it more frequently appears in connection with dilatation of the left ventricle and atheroma of the larger vessels. In any case one must inquire as to chronic alcoholism, which gives rise to some of the most typical cases; but even in these cases post-mortem examination gives evidence of change in the myocardium, often of neuritic changes in the vagus, or both combined, thus giving an anatomical basis for the symptom. Tobacco is also accountable for some, as well as certain drugs, including tea and coffee. Drug cases I have met repeatedly in the young. A reflex tachycardia, of which there are many cases originating in many of the organs, is not rare, and is unattended by danger except in highly degenerate persons. Growths, and lesions of various sorts involving the pneumogastric, whose inhibitory influence is the immediate cause of the tachycardiac condition, may cause this symptom, but their consideration is hardly in place at this time.

That tremulous fluttering of the heart which comes on with such suddenness, and ends equally suddenly in a forcible contraction of the ventricles, and which is ordinarily termed *tremor cordis*, is a not infrequent symptom of the degenerate heart. Like the other symptoms considered, however, it is not peculiar to the senile, nor, indeed, is it an evidence of any form of organic disease involving the circulatory system, yet it is cer-

tainly much more common after the age for senile degeneration has been reached. In tremor cordis there is an entire absence of the throbbing which marks palpitation. It is a peculiar tremulous sensation, attended by anxiety. Perhaps the usual very sudden development of this symptom has much to do with the production of the fearful feeling attending. The appearance of an attack of tremor cordis is, so to speak, with a bound and without the slightest premonition. The pulse is thready, and imparts a tremulous or trembling sensation to the finger. The duration of attacks varies from a mere development of the symptom, occupying a few seconds, up to five or six seconds—seldom more. They may be frequently repeated. A number of cases have been reported indicating that the patient was able to control the attacks in a measure by voluntary impulse. This is interesting and corroborated by what is accepted as a fact, *i.e.*, that some persons have been able to arrest the heart's action by voluntary impulse. Many will recall interesting accounts of the exercise of this power by the East Indian fakirs, also several celebrated cases reported by physicians of eminence.

To explain tremor cordis as it appears in connection with senility, or at any period of life, is not yet possible. It seems to be a reflex inhibition through the vagus nerve, the uncontrolled heart suddenly going off into rapid, incomplete systoles, the left ventricle becoming fuller and the arteries emptier. This continues until the ventricle summons augmentor assistance, when it makes a mighty effort, emptying itself fully, when the attack ceases.

Marked irregularity of the heart's action as to rhythm and force, which may appear in attacks or be persistent (delirium cordis), is an occasional attendant of the senile vascular system. Its presence suggests search for a dilated heart. It often appears with mitral stenosis. It is marvellous how long such a high degree of irregularity may exist and the patient keep about. Dr. Bartlett and I have a gentleman under our care, fifty-nine years of age, whose heart has presented the highest degree of this form of irregularity for nearly three years, yet he goes about most of the time and gives considerable attention to a large business. His heart is moderately dilated.

The subject of heart-pain I have preserved for final notice. It is a frequent and important symptom of the degenerate heart. We read of angina pectoris, of pseudo angina pectoris, and of heart-pain, which is neither of these. I am sure that any gentleman who has not given considerable attention to the subject of heart-pain frequently arises from his journals and books somewhat discouraged by the confusion which reigns in this realm. At least, these are the feelings which have dominated me, and do to some extent at present. Very sharp discriminations between these various accepted forms of pain are made by some writers, notably by Hucard in his recent exhaustive consideration of the subject; but all of the enumerated so-called characteristic features are open to criticism, in view of the numerous exceptions met, and it must be confessed that we frequently meet cases of heart-pain which cannot be classified according to the existing method. We are too apt to look upon true heart-pain as a symptom peculiar to those who have passed the meridian of life, and when a pain, determined as involving the heart, is met in a young subject, it is too frequently dismissed as hysterical. This is a serious error; for while such pain does often develop in the hysterical, quite a percentage arise from cardio-vascular changes of a pronounced character. There are numerous cases reported by the most competent observers proving the existence in the very young of the changes in the heart and arteries which are common to senility. Age, then, does not determine the nature of heart-pain, however much it may suggest. We must, in every case, first of all, exclude, if possible, any extra cardio-vascular condition liable to excite reflex pain, such as gastro-intestinal and hepatic disorders, disease of the uterine organs, intercostal neuralgia, etc.; also certain diseases of the vascular system, notably aneurism, and consider the possibility of tumor and other changes capable of causing pressure upon the cardiac nerves. The practical conclusion one must reach after a careful survey of this subject is, that we may name any heart-pain angina which cannot be explained by the presence of some cause of neuralgia, whether such cause act reflexly or directly, as from pressure. And regarding this class of cases, I am

forced to admit that they do not all present the same syndrome, even in respect to their most pronounced features. You will note this in the following case-histories. I cannot report them fully for want of space, but you will observe that the *relative symptomatic prominence of pain and anguish* (of which much is made in distinguishing between angina and other heart-pains) probably cannot be taken as a test of the nature of the case. The cases selected consist of four which happen to be under my care, directly or indirectly, at the time of writing. Not one of them presents what is generally considered to be the typical syndrome of angina pectoris, yet all are, in my opinion, pain in the heart, without evidence of the existence of conditions which could cause the pain reflexly. Their origin in any of the conditions considered as causes of pseudo-angina seems to be excluded.

A lawyer, æt. 56 years, was a Union soldier during our civil war, contracting at that time a chronic diarrhœa, which has continued, with slight periods of improvement, ever since. For five years past he has been afflicted with heart-pain which had, up to the time of his consulting me, failed to respond in the slightest degree to treatment, although he had employed eminent advice. The pain characteristics are: Its development from exercise, especially from walking; an entire absence of the distressing anguish of angina. His heart is slightly dilated, and arteries abnormally tense and somewhat thickened. He has for some years had a large increase of the quantity of urine (seven pints *per diem* when he came under my care), containing enormous quantities of free uric acid. Upon one occasion the urine was slightly albuminous, but several exhaustive examinations have failed to show tube-casts. The patient is florid, weighs 180 pounds, and has every appearance of health; has not had syphilis, nor has he been addicted to any bad habits. The heart-pain has been relieved considerably, the urine is normal in quantity, nearly free from uric acid, but the diarrhœa has thus far scarcely yielded to treatment.

A merchant, 67 years of age, who had in general enjoyed good health, and was free from a history of syphilis or bad habits of any kind except overwork, developed general dete-

rioration, with shortness of breath and severe heart-pain. The pain occurred in attacks which were brought on by exertion, especially from ascending stairs. While there was some restlessness attending the attacks, there was absence of the distress which is so marked a feature of what we call angina pectoris. Latterly the paroxysms have developed from walking upon the level, and often without provocation of any kind. The heart is hypertrophied, especially the left ventricle, but there are no murmurs. The urine does not contain evidences of kidney disease, but there are gouty symptoms of a general character.

There can be no doubt but that very many cases of heart-pain, especially those which are ætiologically obscure, are due to gout, and, unfortunately, the pain may exist a long time before some of the tell-tale symptoms of gout appear. In one case, occurring in a middle-aged lady, I looked upon the pain as hysterical until the appearance of Heberden's nodules, when an anti-gouty regimen gave great improvement.

In the remaining two of the four cases referred to the paroxysms of pain are moderately severe, and one has the peculiar distress of angina. This subject of heart-pain is one upon which a small book could be written, and perhaps large ones may be before it is fully understood, and we are able to differentiate its various forms with fair accuracy. In the meantime we must collect carefully-prepared histories of cases, taking care not to narrow our observations to the vascular organs. The relationship of high vascular tension, neuritis of the cardiac nerves, changes in the walls of the heart and aorta, and the circulation of uric acid in the blood, to heart-pain, are problems awaiting solution.

This paper has already been extended to such a length that I must exclude the subject of treatment, hoping to have the opportunity to consider it upon some future occasion. That much is being accomplished in the attempt to arrest senile changes and lessen the annoyance resulting from established pathological changes is undoubted, and it may be possible that the recent startling statements of the illustrious Virchow before the International Congress at Moscow are not too enthusiastic. It is but a few days since this most remarkable man of the

century stated, in substance, that he believed the final secret of life—*i.e.*, how to preserve life alive and protect it against the assaults of disease, resulting in an extension of life rivalling that of the patriarchs of old—would be discovered within the lifetime of many of his hearers.

DISCUSSION.

Dr. E. R. Snader: The subject of cardiac vascular changes is an extremely important one, and we cannot know too much about it. Dr. Goodno's paper has been exceedingly exhaustive and full of interest, and I am glad to tell you that there are quite a number of very original ideas in that paper. The great problem in treating a case of senile decay of the heart comes when you attempt to measure the exact power of the heart to do its work. As Dr. Goodno has intimated, the heart that is slightly dilated can do work for long years, properly handled. I know of no problem in cardiac diagnostics so difficult as that of measuring the heart-power of a senile heart. That does not include the diagnosis, which is comparatively easy; but the higher diagnosis, as to just how much work you must do for that heart in the way of hygiene and drugs, is a problem difficult of solution. I am very glad indeed that Dr. Goodno emphasizes a point that I am very fond of speaking of, and that is in regard to the pains in the cardiac region. The text-books used to teach that pain was to be considered as in favor of functional disease of the heart. My experience has been particularly contrary to that. Pain is very much more frequently complained of. Cardiac sensations that are not allied to pain, but, aside from anginal attacks, are infinitely worse in their effect upon the heart and mentality of the patient, were not referred to by the author. I am glad that he called attention to lithæmia, the special predisposing cause of senile changes, so-called. Heredity has a very great deal to do with the production of early changes. I have seen a girl of twenty-one with arteries as rigid as a man's of seventy without discoverable kidney change. I can trace that back three generations. The probabilities are that the changes will begin so early that there will be no progeny. Therapeutically, if we considered this subject,

we could take up the entire meeting. It is the largest possible kind of a field. All the aid that medicine can give you, not only in the mere prescription of drugs, but in the regulation of life, is of paramount value.

One point I was particularly struck with, and that is Dr. Goodno's attempt to generalize and formulate a working plan by which we could arrive at a significance of heart pain; in other words, if you can exclude reflex causes and can exclude definite heart lesions, not specifically associated with angina pectoris, you are justified in considering the possibility of angina being present. That makes the working problem easier, but the other horn to that dilemma is extremely difficult. To determine that no reflex cause exists capable of making cardiac pains is very difficult, and I wish that horn could be made as plain as it appears to be to Dr. Goodno. Osler called attention to forms of angina without pain, and I have seen such specimens.

REMARKS ON SALIENT POINTS TO BE OBSERVED IN THE CURE OF CHRONIC DISEASES.

D. S. KISTLER, M.D., WILKESBARRE.

Most physicians are more or less busy practitioners, more intent upon accomplishing real cures by art than trying to point out the method of their operations by any particular philosophy. To many, Homœopathy is a sort of an empirical science, which, in their opinion, has much less need of any deep-cut principles than of a safe method which will secure a successful result. This sounds very good as far as it goes, but every empirical science is, and should be, capable of further development, or else it has no right to exist and cannot maintain its proper status in the republic of sciences. Hence it deserves the highest praise if physicians in active practice work along on this line of development. This is therefore the apology I make in presenting this paper, in the hope that it may lead, through its discussion, to a greater zeal on the part

of many of us to study more closely the Materia Medica and the proper means on which to prescribe the similar remedy, and thus cure many more of our old chronics, who are numerous in almost every physician's clientele.

A patient comes in your office, telling you he has been sick for a long time. Two important questions now arise, viz.:

1st. What do you want to know about his sickness?

2d. What is your method of helping him to get rid of his sickness?

As to the first question, do you want to know whether he has chills or fever, whether he is bilious, whether he has asthma, whether he has eczema, whether he has psoriasis? Is the mere naming of his disease your chief aim? No, surely not. Desirable as it is to make a careful physical examination of your patient and thus arrive at a correct diagnosis (for we ought to examine our patients much more closely and thoroughly than the allopathic physician does), yet happy is the physician who, having made his diagnosis, can forget it while prescribing, for it is well to say to your patient, when he comes to be treated for any one disease, that you had long ago given up the idea of treating diseases, but that you now make an exclusive specialty of treating sick people only. You want to find out all that is felt by the patient, noticed by an individual around him, or observed by the physician. The *ensemble* of these available symptoms represents in its full extent the disease itself, and constitutes the only form which the mind is capable of conceiving. Thus, if in a disease we can perceive nothing but these objective and subjective symptoms, then these symptoms alone must guide us in the choice of the remedy in finding the most certain means of restoring health to the sick man. (*Organon*, Section 7.)

As to the second question, "What is your method of helping him to get rid of this sickness?" Hahnemann tells us that if the case is well taken, the patient is half-cured already. This coming from the master whose success we fain would emulate, it is well to see how he accomplished it. 1st. He kept a written record of his cases—a book in which the patient's symptoms were recorded as told by the patient himself. In

this many of us come short, for various reasons. Some say this was never done before by themselves or their preceptors; others that it takes too much time when they have half a dozen patients in the waiting-room; and still others say (which comes nearest the mark) that it is too much trouble. The question asked is, "If you do go to this trouble and keep these records of your chronic cases, does the end—the result—justify the means?" Let us see. In any commercial transaction which, in its fulfilment, would require a month to elapse, would you be willing to trust to memory's safe keeping and not have it recorded on paper? If you make a dozen visits and as many prescriptions in a day, do you trust to memory to record those names in your day-book in the evening, or do you enter the names as soon as the patients leave the office? In fact, as a business man, would you make any transaction of any import covering a certain space of time without having it recorded? If not, how dare you trust to memory your patient's symptoms and trifle with his health, which is more to him than all wealth, when your highest and sole duty is to restore health to the sick patient by the quickest, safest and most reliable method? How can you remember that peculiar course, that strange aggravation or amelioration, that peculiar mental condition of that particular headache in Mrs. A. one week from now, when a half-dozen or more patients of yours in this time have an ailment where headache is also a marked feature? You say you question your patient every time he comes to consult you. This method is faulty for various plain reasons. One is, your are then not saving any time, for it takes time to get the totality of symptoms in a given case. Another is, you are apt not to get again such a good image of your case. That peculiar mental aggravation or strange amelioration or uncommon sensation you forget that your patient ever had, and so you may be minus the very symptom which would be the deciding one in prescribing one or the other remedy. And still another is, you cannot observe in this way the course and progress of your cure in a chronic case.

2d. The master tells us the physician must have an unbiased mind in taking the case. This does not come from him in the

form of a request, but of a command thundering down through the halls of Time from the very lips of Hahnemann and proved true in practice a thousand times over every day; and yet how few of us observe it fully and could conscientiously throw the first stone at the transgressor. The unprejudiced physician is free from bias, is ready to receive and judge whatever may be brought before him in form of symptoms, without any preconceived ideas or opinions regarding any symptom of either the patient or remedy that may be related to the case before him. How often do we say to ourselves, in taking a case, "This symptom calls for nux," "This is a key-note for rhus tox.," "This symptom is only found in the proving of so-and-so," and straightway begin to ask direct questions that are apt to bring "Yes" or "No" as the answer, according to our desire, so as to correspond with our own preconceived idea of what the remedy should be. Is this not prejudice, and can we wonder if our patient does not get well? Can we get a correct image of the case by doing this? Certainly not, for the patient will deceive himself and you, nine cases out of ten. Therefore let your patient tell the story and you record it with fidelity, when you will soon see that the master was right when he said, "If the case is well taken, the patient is half-cured already."

A few words on the relative value of symptoms. 1st. The most peculiar, uncommon characteristic symptoms of the disease should, above all others, bear the closest similitude to the remedy that is prescribed. Thus, the psorinum patient is never happier than when he is sitting in front of a roaring fire with a big ulster on and a fur cap over his head, while his grandson, sulphur, enjoys his grandfather's company very much, and has many things in common with him; yet here they positively have to part company, for the sulphur patient cannot stand the heat. He wants doors and windows open. Should you confine him with the psorinum patient, he would go wild with the itching, and would be unhappy until he got into fresh air. This is a peculiar condition, yet it is these very conditions and peculiar symptoms (the cause of which science does not explain) experience teaches us are of great value in curing the sick.

2d. The mental symptoms of the patient should correspond with the mental symptoms of the drug. Thus, aconite seldom or never effects a quick cure when the temperament is mild and even, or nux when the patient is mild and phlegmatic, or puls. when he is firm and obstinate, or ignatia when the mind is unchangeable and little susceptible to either fright or grief. These mental symptoms have nothing to do with the diagnosis; yet Hahnemann tells us they are of extraordinary value, and should be very strongly considered in the selection of the remedy.

Having taken the case and prescribed for the sick patient, have we any means by which we can judge of the result? The disappearance of the symptoms, of course, is proof positive. But is there any order according to law in which we can trace the progress of the cure? Yes. Hahnemann was the first person to point it out.

The first and most important one: symptoms in a chronic disease will disappear in the reverse order of their coming. Thus, later symptoms will disappear first, and the earlier ones later. You will observe this fact only by keeping a record.

2d. Symptoms disappear from within outward, generally from above downwards.

3d. The reappearance of old symptoms in the course of a cure. This is always a sure indication that the treatment is correct. You need worry no longer; such symptoms will pass away and the progress will be favorable; but if you interfere and try to treat these old symptoms you are treading on dangerous ground and will render the cure improbable, if not impossible, for the system will not again respond so readily to a remedy.

For want of time, this paper is silent regarding medicinal aggravations except to mention the most important one, viz.: That if you have a sharp, violent aggravation of short duration, with following improvement, you can rest assured you have selected the properly indicated homœopathic remedy.

A STATISTICAL STUDY IN LOCOMOTOR ATAXIA.

F. M. LAWRENCE, M.D., PHILADELPHIA.

Duchenne, whose admirable description of tabes first made it a clinical entity, did not fail to note that syphilis often seemed to be the only rational cause of locomotor ataxia; but because the symptoms were the same in the supposedly non-specific cases, and because anti-syphilitic treatment failed to exert its beneficial influence, he concluded that the apparent etiological relationship was illusory. It was not until 1876 that A. Fournier stated emphatically and for the first time that syphilis was the one most frequent cause of tabes. Three years later, in 1879, Erb added the weight of his experience to this contention, stating that he had found syphilis in 27 out of 44 cases. At once a fierce dispute arose. The old records of cases were reviewed, and as syphilitic histories were found in only 20 or 30 per cent. the opponents of this new view seemed at first to have much the better of the discussion. Even Charcot, close observer as he was, joined with the Berlin school in opposing the theory.

But with attention thus closely concentrated on the one etiological point, careful record-taking brought about a statistical change, and in 1881 Gowers, of London, was able to announce that in 70 per cent. of his cases he found a history of syphilitic infection. About the same time Erb came forward with the records of 100 cases, in 88 per cent. of which syphilis existed; and in 1882 Fournier was able to state that in 117 cases examined in the years succeeding his first statement he had found a history of infection in 91.45 per cent. I have named but a few of those who have taken part in the controversy. Statistics, too, have varied widely; but examination of the tendencies from year to year shows clearly the increasing importance attributed to syphilis, until now it may fairly be said that a large proportion, perhaps a majority, of neurologists look upon

syphilitic infection as not merely a cause, but the cause, of locomotor ataxia.

With the intention of finding what light, if any, the study of our own cases might shed upon the point in dispute, I have carefully tabulated the records of 50 cases which I have seen in dispensary and private practice during the past few years. It is interesting to note that these 50 cases, although a majority of them dispensary patients, by no means represent the lowest walks of life; most of them can best be classified as artisans, with a sprinkling of commercial men. The average age was about 46, rather older than most authorities make it. Probably in most of these cases the disease had existed, unrecognized, for several years. Five cases, the usual proportion of 10 per cent., occurred in women.

As to syphilis, in 35 cases (70 per cent.) there was positive evidence of infection. In 6 other cases (12 per cent.) the disease was denied, but its existence was rendered probable by such strong presumptive evidence as scars and acknowledged diplopia, alopecia, and other suggestive symptoms. In the remaining 9 cases infection was absolutely denied, and there existed no ground upon which to justify a refusal to accept the patient's assurance.

On the whole, however, our statistics seem to me to afford striking confirmation of the belief that syphilis is the sole cause of locomotor ataxia. In more than a third of those cases where infection was denied we found, as I have shown, distinct evidence of the pre-existing disease. It is not necessary to assume a lack of veracity on the part of all patients making up the remaining 18 per cent. in order to justify this belief. In but 7 of the 35 acknowledged cases was there any history of secondary manifestations, and this is the rule in the experience of all observers. Naturally, then, in many cases the nature of the primary sore is never recognized. In fact, in undoubted tertiary syphilis Hirsche, of Vienna, has found it impossible to prove infection in more than a third.

In this connection, as Mobius has well said, the voice of reason has a right to be heard. "When a disease with marked characteristics is found it surely occurs to no one to suppose

that such a disease has now this, now that cause. Is it believed that malaria arises to-day from plasmodia, and to-morrow without them? . . . . If in 10 cases of epidemic cholera the vibrios are found in 9 but not in the tenth, it is surely not thought that the tenth case arose, say, from dietetic errors, but the remaining 9 from the cholera bacillus." Apply such logic to tabes. Surely, it is a disease *sui generis*. Can we, then, doubt that its cause, and its only cause, is syphilis?

Among other facts brought out by my tabulation it should be noted that the lancinating pains were present in 44 cases (88 per cent.), in almost every instance this being the first symptom subjectively. In 49 cases (98 per cent.) the knee-jerk was either almost or entirely lost; in the remaining case, diagnosed from the combination of pains, sexual hyper-excitability and Argyle-Robertson pupil, the knee-jerk was at first increased, but in the course of six months it gradually lessened, and finally completely disappeared. As to the pupillary reflexes, in 35 cases (70 per cent.) the Argyle-Robertson pupil, with its loss of light reaction, was present on the first examination; in 6 cases the reaction to light was sluggish, and in 7 cases (14 per cent.) the reaction remained normal. In 2 cases the recent use of a mydriatic prevented a satisfactory examination.

Inco-ordination, widely varying in degree, was present in 88 per cent. of the cases. Other symptoms, such as paresthesia, vertigo, visceral crises, and paralysis of the sphincters are not uncommon, but occur with nothing like the frequency of the classical symptoms to which I have referred. Vesical disturbances occurred in 21 cases (42 per cent.). Optic-nerve atrophy was present in 4 cases (8 per cent.), and, as usual, seemed to be associated with an otherwise milder course on the part of the disease.

The therapeutic results can scarcely be accurately gauged by the statistics of patients who, like many of these, appear in the dispensaries at irregular intervals, and at no time enjoy the most favorable environment. On the whole, however, results are not as discouraging as many would have us believe. Even with the cases that I have mentioned, while restoration is, of

course, impossible, long periods of remission, with almost complete disappearance of the pains, are not unknown. It is, of course, difficult to say to what extent this is due to drug influence; but certainly the patient should have the benefit of whatever lies within the possibilities of medicine. In those of our cases in which syphilis was not yet entirely merged into its degenerative sequel, mercury and the iodides were given with results that would seem to justify their continued use. In the more fully developed cases of tabes, argentum nitricum was generally prescribed, and by controlling the pains, if not actually checking the sclerosis, vindicated its ancient reputation in both schools. Alumina has, in a few instances, been of apparent value. Aluminum chloride, of which Gowers has spoken so highly, I have tried in a few cases with results that encourage me to continue its use. Many other remedies, including phosphorus, magn. phos., strych. phos., apis, nux vomica and sulphur have been used symptomatically or for intercurrent conditions, but I can scarcely draw any conclusion as to their effects.

In conclusion, let me direct the attention of the Society to one fact: that the lancinating pains were present in 88 per cent. of the cases, and were generally the first subjective symptom. Almost every case that comes to us tells of a more or less distinguished physician under whose care he has gone through a lengthy treatment for "rheumatism." The moral is obvious: every instance of recurring pain in any part of the body should lead the physician to at once test the knee-jerk and the pupils. He may be astonished, as we have been, at the number of these cases which prove to be locomotor ataxia.

THE BAD NAUHEIM TREATMENT OF HEART DISEASE.

EDWARD R. SNADER, M.D., PHILADELPHIA.

THE medical journals of late have contained paragraphs and articles respecting the Bad Nauheim treatment of cardiac disease, some of them more or less explicit as to the method employed, and some commenting upon the mode pursued there in a manner implying suspicion of the results alleged to have been obtained, and still others so vigorously impaling the theories of the action of baths and movements used in the Bad Nauheim cure, that I was quite naturally in the dark as to the real status of the subject. The experiments with the methods conducted in this country have been, so far as I have been able to ascertain, rather meagre, and, withal, rather disjointed. Some tried manufactured baths alone. Some used the movements exclusively. Others still disputed the main assertion of the advocates of the Schott method of cure. Interested deeply, as I necessarily am, in all that pertains to cardiac therapeutics, and being "hazed" by the lack of unanimity of opinion concerning the treatment pursued, growing out of an imperfect understanding of the method and a too great willingness to discount apparently proved assertions, I presume, I determined upon a personal inspection of Bad Nauheim and its remedial measures. I determined to be on the battle-ground, and in the thick of the fight. I shall in this paper endeavor to present some of the facts necessary to be known to the "American jury" before they arrive at a verdict.

REMEDIAL RESOURCES.

Baths.

The waters arising from three springs are employed as baths, viz.:

1. "The Great Sprudel" (Spring No. 7), containing, briefly,

among other ingredients, chloride of sodium, 3.03 per cent., and carbonic acid gas, 0.392 per cent., at the natural temperature of 32° Cent. (89.6° F.)

2. Spring No. 126, "Friedrich Wilhelm-Quelle," is the second bath, containing chloride of sodium, 3.55 per cent., and carbonic acid gas, 0.361 per cent., with a temperature of 33° Cent. (91.4° F.)

3. Simple saline baths. The ordinary brine bath is one from which the carbonic acid has been removed, this result being produced by exposure to the atmosphere and by the removal of a certain amount of salt. These baths can be regulated as to the amount of saline and other solid material by the addition of a more or less uncrystallizable extract obtained from the original springs by evaporation and concentration by boiling. This substance is known as mutterlauge (mother-lye), and is very rich in chloride of calcium and bromine. This mother-lye is used most extensively to gradually and systematically (as is demanded by individual cases) strengthen other baths, more particularly the thermal brine baths, or weakened by the addition of common water. The temperature, of course, can be regulated at will.

Following is an analysis of the Nauheim mineral waters:

The waters containing many ingredients, the most important are considered to be the *chloride of sodium*, THE CHLORIDE OF LIME, and, above all, the CARBONIC ACID GAS. These three elements, according to Schott, the originator of the present, or rather the most approved, method of application to the amelioration of cardiac disorders, are the active ones in producing the favorable issues secured at Bad Nauheim. The closest possible discrimination in the manner of administration of the baths is practiced. The time, the temperature, the strength, the period over which the baths shall be continued or interrupted, are all matters of profoundest attention on the part of the attending physician. Whether the bath shall be a simple saline, a thermal brine, an effervescent (sprudel-bad), or a current thermal brine or current effervescent (thermal strom and sprudel strom), are considerations that demand the utmost discrimination. Combinations of the waters from the two

Constituents. The amounts of solids are given in grammes, as contained in 1000 grammes of water.	Analysis.			
	Bathing Waters.		Drinking Waters.	
	Spring No.12.	Spring No. 7.	Kur-brunnen.	Karls-brunnen.
Chloride of sodium	29.2940	21.3245	15.4215	9.8600
Chloride of lithium	0.0536	0.0492	0.0267	Trace
Chloride of potassium	1.1194	0.4974	0.5270	0.0731
Chloride of ammonium	0.0712	0.0550	0.0371	0.0113
Chloride of calcium	2.3249	1.7000	1.0349	1.0578
Chloride of magnesium	0.5255	0.4402	0.7387	0.2040
Bromide of magnesium	0.0083	0.0060	0.0063	0.0014
Iodide of magnesium	Trace	.....	.....	.....
Sulphate of calcium	0.0352	0.0847	0.0238	0.2277
Sulphate of strontium	0.0499	0.0390	0.0324	0.0087
Bicarbonate of potassium	2.6012	2.3541	1.1461	0.9515
Bicarbonate of iron	0.0484	0.0392	0.0262	0.0152
Bicarbonate of manganese	0.0069	0.0065	0.0082	Trace
Bicarbonate of zinc	0.0089	0.0104	0.0070	Trace
Silicic acid	0.0213	0.0325	0.0186	0.0087
Arseniate of iron	0.0002	0.00086	0.00016	Trace
Phosphate of iron	0.0007	0.00046	0.00034	0.0002
Organic substances	Trace	Trace	Trace	Trace
Amount of solid constituents	36.1696	28.0886	19.0549	12.4272
Specific gravity	1.02757	1.62088	1.01475	1.0089
True carbonic acid gas	*2.7900	‡3.1107	1.9622	14.272
Temperature (Celsius)	†35.3	⁒31.6	21.4	15.

* = 1456.1 ccm. ‡ = 1592.3 ccm.
† = 95.54 Fahrenheit. ⁒ = 88.88 Fahrenheit.

springs, Nos. 7 and 12, in varying proportions, are made, and for manifest reasons.

Method of Administering the Baths.

Except the plain water or simple saline ablutions, no baths are given without a physician's prescription. Prescription blanks for baths contain the day, the month, the number of the spring or springs from which the water is to be employed for bathing, stating whether with or without carbonic acid gas, whether with or without or the amount of mutterlauge (mother-lye, a concentrated residue of the main salts contained in the Grosser Sprudel and Friedrich Wilhelm-Quelle, secured by evaporation, atmospheric exposure and boiling, and used to in-

crease the power of the baths), the temperature of the bath, and the number of minutes the patient is to remain in the bath, and also remarks to the bath attendant.

All the "cardiacs" are carefully differentiated as to the kind and quality of baths at the commencement of treatment. The patients are examined sometimes twice a day, occasionally before, during and after the bath, generally, however, every two or three days, and their progress noted, great attention being paid to physical signs, and the baths altered as to strength, temperature, duration, or stopped temporarily, or the "cure" interrupted for two or three weeks, as may seem wise to the attending physician.

Following is a bath prescription in a case of simple dilatation of the heart, due to overstrain by too much climbing (the Oertel treatment), in a stout, gouty male of 45:

Day.	Month.	Spring No.	Carbonic Acid.	Mother-lye.	Temperature. (Cent.)	Minutes.
30	July.	Thermal 7	With	None.	32½°	8
31	"	" 7	"	"	"	9
1	August.	" 7	"	"	"	10
2	Pause in	the baths.				
3	August.	Thermal 7	"	1 litre.	32°	12
4	"	" 7	"	1 "	"	13
5	"	" 7	"	1 "	"	14
6	Pause.					
7	August.	" 7	"	2 litres.	31½°	15
8	"	" 7	"	2 "	"	16
9	"	" 7	"	2 "	"	17
10	Pause.					
11	August.	Sprudel 7	"	None.	Natural.	8
12	"	" 7	"	"	"	9
13	"	" 7	"	"	"	10
14	Pause.					
15	August.	" 7	"	"	"	12
16	"	" 7	"	"	"	14
17	"	" 7	"	"	"	15

This is not a complete bath record, *i.e.*, it does not correspond to what the patient would have received throughout the treatment. It is the beginning, simply. The patient was summoned home before he could complete the course of baths.

A course of baths is usually of six weeks' duration. Some patients with progressive lesions return annually; others secure

enough benefit to last them for a year or two, or are even permanently benefited. The official season is from the 1st of May to the 1st of September.

The effects of the baths are to produce a slight sensation of chilliness, followed in a moment by an agreeable sensation of warmth. The respirations are at first deepened, and a sensation of præcordial, pulmonary or epigastric oppression is observed. These oppressive sensations are usually temporary. The bather comes out of his tub with cutaneous covering a rosy tint, in consequence of the irritating effects of the bath and the consequent dilatation of the superficial capillaries. This red coat is less marked in the thermal brine, more marked in the sprudel, and reaches its highest degree in the sprudel-flowing effervescent bath. The therapeutic effects are a diminished size of the heart, a slowing of the pulse, a filling of the arteries, a relative emptying of the veins, enlarged cutaneous capillaries, a diminution in the size of an enlarged liver, and increased diuresis. The baths often bring out latent troubles, as gout, rheumatism, syphilis, etc. By strengthening the beat they sometimes develop a murmur of a previously unsuspected valvular lesion.

The "sprudel-strom"—the effervescing current—is a bath seldom used in cardiac cases, and then only (a rule not without exceptions) after the patient has taken three or four courses of baths during as many seasons. This bath is extremely powerful for both good and evil, and, indeed, this comment is equally true of the other baths regarded as less stimulating and irritating. It is obvious to you all that resources capable of producing good results are also capable of bringing about evil events. This is only paraphrasing that old saying, in a new adaptation, "The greater the poison, the greater the medicine."

In some special cases the baths are the only remedial measures used, and in others exercises are used conjointly with the baths. Again, exercises alone are employed.

The Schott Movements and Other Exercises.

Movements—*i.e.*, exercises—are everywhere regarded as part and parcel of the Bad Nauheim method of treating cardiac

disease. Stokes first suggested the use of exercise in heart disease, and also Oertel, whose hill-climbing treatment and liquid abstention ideas, as practiced, have become unjustly world-wide. I myself, in a paper presented to this body in 1888, without at that time knowing anything of Stokes, Oertel or the Schott brothers, recommended certain of the Swedish movements, under the title of "Suggestions Concerning the Auxiliary Treatment of Simple Cardiac Hypertrophy," suggesting, also, the use of hot and cold baths, but not exactly, however, as taught by Schott. But, unquestionably, to the Schott brothers, August and Theodore (the former now, unfortunately, deceased) belongs the honor of systematizing and popularizing the system of movements known by the name of Schott, and thereby revolutionizing the treatment of certain forms of cardiac disease, and of killing the idea that no heart patient can exercise without sudden death hanging over him as a possible penalty.

It is true that some other observers had quietly reached the conclusion that exercise was not a cardinal sin, in certain cardiacs, before they heard of Schott; but they were chary of announcing it, and the pall of the former belief still hung over the rank and file of the profession. The heart specialists knew that exercise did not always kill; the general practitioner had inklings of the truth; but the Schotts demonstrated the fallacy of the idea of non-exercise, and proved indisputably that proper exercise decidedly helped certain sufferers from heart disease. Exercise is enjoined, not prohibited, in special cases.

The results produced by these movements in cardiac disease is unquestioned by a keen observer, and are only cavilled at by those who do not know how to use them. In the employment of these exercises, if possible, even greater discrimination in the class of cases in which they shall be used, and the tact of their performance, than upon the baths, are given, and is imperative. Briefly, the movements consist (I shall not in this paper consider them in detail) of the use of such movements of the trunk and extremities as shall bring nearly all the muscles of the body into play at different times during the seance, which lasts for varying periods—usually from half an hour to forty-five min-

utes. The movements are those of flexion, extension, adduction, abduction and rotation, slowly—never jerkily—performed, with very little expenditure of actual strength, these movements being "*resisted*" by a skilled operator. Exercises of the shoulder, elbow, wrist, and of the hip, knee and foot are performed, each set being moved in groups or sometimes exercised separately; then the corresponding portion is next brought into play. The body is moved forward, backward and laterally. Between each movement (or set of movements, as one arm and then the other) there is a distinct rest of the same length of time as it required to execute the previous movement. Each movement takes about thirty-five or forty seconds. The amount of resistance offered by the attendant is never great. The patient must not be tired by the movements, his breathing must never be much quickened and never seriously embarrassed, and the pulse must not be quickened. The operator must observe all these points—the quickened breath, the increased pulse-rate, cyanosis, palpitation, yawning—and cease at once, the seance being resumed only when all the perturbations of pulse and respiration, or other symptoms induced, have completely subsided. The greatest amount of judgment is required by a skilled operator; he must regulate the resistance exactly to the capabilities of the patient. At portions of the movement where the patient cannot, for anatomical reasons, exert much strength, his resistance is correspondingly diminished. He must never so grasp a limb as to interfere with its normal movement; he must compress no bloodvessel; he must continually correct undue energy, and slow and increase the pace of movements as is best for the individual who is being resisted —all of which require special training.

The effect of these exercises, it is claimed, is to diminish the size of an enlarged heart (the enlargement due to dilatation, primary or secondary to valvular lesions especially), increase the force of the pulse, fill the arteries, deplete the veins, and slow the pulse. The pulse, however, is not so much slowed by the exercise as by the baths. The effect of a single series of movements is often remarkable in affecting all the results enumerated. This effect is, of course, at first only temporary.

By a continuation of the resisted movements a new gain is made, and so, step by step, the heart is restored to full or nearly full functional power. All the symptoms due to defective circulatory strength—mental, moral, physical—slowly vanish. A by-condition is usually noticed also, from the baths more especially, but also from the exercises, and that is an increase in the amount of urine excreted. This additional quantity of urine occurs whether there has been dropsy present or not.

There is also at Bad Nauheim a medico-mechanic (Zander Institute) provided with all the mechanical machines and apparatus required by the system of Swedish gymnastics. The treatment is under the control of physicians and a skilled superintendent. These machine-medicine movements are not a part of the Schott method of treating cardiac disorders. Theodore Schott epitomizes his idea of exercise in this fashion: "Movements without design weaken the heart; movements with design, on the contrary, strengthen the heart." Some of the medical men here employ the Zander Institute not only in breast but also in other affections. I have not had an opportunity of noting the effect of the exercises at the institute on cardiacs personally, but I have good testimony from an observing physician, who himself took the Zander Institute exercises, that they were without effect upon his heart (a dilated one), while the Schott resisted movements were signally so. The chief objection urged against the machine exercises, in contrast with the resisted movements, is that a mechanical apparatus cannot adapt itself to the natural movements, and give resistance where it is needed in a muscular evolution and fail to give it at portions of a movement where it is not needed. In other words, a machine is not intelligent; it cannot gauge the weak and strong points, and thus fails to produce the result of the Schott movements.

The Oertel system of mountain-climbing can well be practiced at Bad Nauheim, for the town lies at the foot of the Taunus range, and walks of all grades of steepness have been made. The "walking-cure"—the "terrainkur"—is therefore amply provided for. By most of the physicians here, however, the indications for the Oertel treatment are entirely dif-

ferent from those enunciated by the originator of the method. Oertel gave climbing the first place in treatment. Schott gives hill and mountain work the last place in his system, and in this he is at one with many of the physicians at Nauheim. When a course of baths and exercises, one or both, has restored an impaired heart to competency, then Oertel's treatment is employed to further strengthen and establish compensation. For valid reasons, however, many patients are never permitted to take the Oertel plan. Walks on the level are all they are allowed.

While the baths and exercises are the pre-eminent measures employed in the treatment of cardiac maladies, great assistance, in proper cases, is secured in bringing about a happy ending by the use of adjuvant

Mineral Drinking-Waters.

The native drinking-waters containing decided mineral ingredients are four in number, the kurbrunnen, the karlbrunnen, the Ludwigsbrunnen, the Schwalheimmerbrunnen.

The kurbrunnen and karlbrunnen are the most frequently used, and are effervescent, containing from 1 to 1½ per cent. of sodium chloride and about one part per thousand of calcium chloride. These two springs are really effervescent saline purgative waters, the kurbrunnen being the stronger.

The Ludwigs-quelle is an effervescent alkaline water, and is not only medicinal but can be used at table as a seltzer water. It contains a small quantity of the bicarbonate of magnesium, calcium, sodium and lithium. The Schwalheimmerbrunnen is a ferruginous spring, containing much carbonic acid gas.

These waters are employed in kidney and bladder disorders, as well as in gout, rheumatism, lithiasis, chlorosis and anæmia, associated or not with cardiac diseases.

The waters are used to promote tissue change, absorption and excretion of exudates, to stimulate the bowels and kidneys, and to produce a transformation in the blood.

The waters of all the other great springs, as Wiesbaden, Carlsbad, etc., are also kept in the water-drinking gardens, and are prescribed by physicians in proper cases.

The administration of these waters is under medical supervision. When their action is not overlooked they are capable of doing great harm. Stomach and intestinal irritation is not an unfrequent occurrence.

Claims.

Let us now proceed to a consideration of what is claimed to be done by the Bad Nauheim treatment of circulatory affections. It is asserted that all forms of heart strain, such as is due to injudicious Oertelism, overtraining in gymnasiums, bicycling, etc., are soon remedied. Cardiac weakness produced by smoking, by alcoholism, by an extra accumulation of fat, is included in the list. Nervous affections of the heart, particularly palpitation, and exophthalmic goitre, are well treated at the Bad. Mural degenerations, as myocarditis and pure fatty degeneration, and angina pectoris, are stopped in their downward course, and relative cardiac competency established. The after effects of rheumatic endo- and pericarditis are regarded as especially amenable, and the lesions left after enteric fever and la grippe are said to be speedily removed. The king triumph, however, is the rapid cure of dilatation of the heart. This dilatation may be complicated, or secondary to a failure of compensation in valvular disease. All diseases of the heart, then, dependent upon weakened muscular power are claimed to be greatly relieved, and sometimes entirely cured, by a course or a series of courses of the baths and exercises. Beveke (1859–1872) was the first to make special plea for the efficacy of the baths, but it was only in acute or sub-acute cases of cardiac disease that he at first thought the waters of Nauheim were indicated. He claimed to have seen murmurs, dependent upon recent endocardial inflammation, rheumatic in origin, disappear, and the heart become normal. Every physician at Nauheim has, I think, a case or two of "disappeared murmur" on record. I judge such cases are of extreme rarity. Without wishing in the least to discount the value of the Nauheim claims, I wish to state that cardiac murmurs due to endocardial inflammation, sequential to rheumatism, have disappeared under absorptive treatment, in patients

under my own personal care, more than once, and that, too, before I ever heard of the Nauheim treatment.

Murmurs dependent upon muscular insufficiency of the heart, without actual organic alteration in the valves, disappear at the Bad after a course of treatment; that is, so soon as the heart muscle becomes competent. This result I have also obtained without recourse to Nauheim methods. Now, while the Blaine principle of "claim everything" is prevalent at Nauheim, there is not a shadow of doubt that magnificent work is being done every day at that place. I do not wish to detract one jot or tittle from the deserved renown of the treatment. I urge only a judicial consideration. Aside from the experience that I have had in watching cases in the baths, one has only to keep his eyes open to see sights that, to the uninitiated, savor of the marvellous. You see one day some poor fellow get off the train so short of breath that he must be supported, a week or two later walking around in comparative comfort. You see lips and cheeks that were cyanotic gradually become rosy. You see eyes that were anxious and haunted in expression look more contented and interested once more in life. You see feet that were swollen with fluid doff their enormous slippers and wear civilized foot-gear.

Now here is a poser. The results are achieved without the administration of drugs in the vast majority of the cases. Schott seldom, if ever, gives medicine. Occasionally, if a patient is water-logged, he may receive digitalis or calomel. When patients come to Nauheim under the influence of enormous doses of digitalis, the use of the drug is continued for a few days until the baths have commenced their beneficial effects. It is claimed by some of the physicians that the action of the bathing-waters is exactly similar to the action of digitalis; that is, a cardiac tonic, slowing the pulse, increasing the vigor of the ventricular contraction, and raising blood-pressure and arterial tension. With these claims I cannot wholly agree. Digitalis constricts the superficial capillaries; the baths dilate them. Digitalis exhausts the heart eventually; the baths boost and strengthen the heart. Both digitalis and the baths are alike in some points in their respective lines of action. The action of

the baths, to my mind, in some particulars at least, is like glonoine, dilating the superficial capillaries. If we possessed a drug having an exactly similar action on the heart as these baths, there would be no Bad Nauheim in existence.

The one great claim of the Schotts that has been most vigorously combated and caviled at is the assertion that the heart becomes smaller in size during the baths, as demonstrated by physical signs. This claim has caused more combat than any assertion concerning the Bad Nauheim treatment. First the physical signs were questioned; but examiner after examiner discovered that, so far as could be determined by physical exploration, the cardiac area was lessened in size. When the physical signs were at last believed not to lie, it was asserted that the lungs were possibly emphysematous, caused by the deep respirations in the bath; that the diaphragm was displaced; that the pressure of the bath-water equalized the distribution of the intestinal and stomachic gases, etc., etc., etc., and so made the heart seem by physical signs lessened in size. Radiographs were made, proving the heart not only smaller, but changed in shape; but here the cavilers interposed that the positions were not the same upon the radiographs when taken before and after the baths. All this, and much more. Personally, I have satisfied myself many times that the *physical signs indicated that the heart* was smaller. At any rate, whether smaller or not, the other evidence of improved cardiac action is indisputable; and further, the symptomatic evidence of cardiac incompetency disappears. This is sufficient evidence to me, quite aside from the evident physical signs, that the heart has indeed lessened in size.

Theories of Action.

The theories concerning the way in which the baths bring about their results have been and still are diverse. The Schotts at first believed in the absorption of the salts, influencing thus the composition of the blood and tissue. Since physiology of a later day apparently teaches the impossibility of skin absorption, it has been held that the solid constituents of the waters, and especially the carbonic acid gas, pass through the outer

layer of the skin to the conium, and there act upon the network of terminal nerves in such a manner as to produce a reflex action on the internal organs, the vaso-motor system and the cardiac ganglia, inducing stimulant and, ultimately, trophic action. The nerve irritation is probably partly mechanical, partly chemical, and partly thermic in character. The reflex action is brought about through the sentient nerves in the baths, and the *movements* bring out trophic changes through the stimulation of the motor nerves by the exercise.

Permanency of Results.

It has been objected to the Nauheim baths that patients "cured" by this mode do not stay cured. That is perfectly true in a great number of cases, and it is no real objection to Bad Nauheim. The anatomical changes preclude the possibility of absolute cure in some instances. Failure in compensation and simple dilatation, other things being equal, are not unfrequently cured in one course of baths or exercises. When a patient returns home and resumes the habits and brings about the conditions that led to the first serious break, it is nothing more than natural to expect a relapse. Some patients return here, season after season, for the very obvious reason that they cannot get the same measure of relief at home. Other lesions are essentially progressive in character, and their progress can be made a little slower, and distressing symptoms relieved meanwhile. Altogether, the matter may be summarized by saying that, up to the present writing, apparently the Bad Nauheim treatment is the best that can be instituted for certain forms of circulatory disorder.

Indications and Contra-Indications.

In general, it may be said that any form of cardiac disorder in which the muscular power is deficient, or the nervous supply is not normal, can go to Bad Nauheim with benefit. There are two notable contra-indications: Aneurism and arterio-sclerosis —both diseases in which the increased blood-pressure induced by the baths is likely to do harm. The two conditions are, however, benefited in the early stages. Dr. Groedel apparently

thinks that even advanced arterio-sclerosis, carefully handled, is capable of improvement. One of the contra-indications, too, is that a patient who will not respond to digitalis should not go to Bad Nauheim. This position, however, is ridiculous, inasmuch as it is daily proven that patients who would not respond to that drug receive distinct benefit from the baths, and, furthermore, after a course of baths, the patient again relapsing, digitalis does bring a therapeutic response. Advanced interstitial nephritis is regarded as unfavorably influenced, although occasionally, in spite of apparent contradiction, the heart and the man improve greatly. Parenchymatous forms of kidney lesion, if advanced, have an increase in the amount of albumin. Simple albuminuria, due to cardiac weakness, disappears rapidly.

There can be no question that a large number of cases unsuitable to the Bad Nauheim treatment gather there annually, and it is equally true that a goodly proportion of cases are put under the baths and movements that could be treated as well at home. The fame of the place makes the first class possible, and the lack of discriminatory knowledge on the part of the general practitioner accounts for the other class.

I cannot close without giving you brief sketches of two notable illustrative cases that I personally investigated among others. The first was a German, 55 years old, who until five years prior to 1897 was a confirmed alcoholic. He had been dropsical all over, been tapped numerous times, had spells of unconsciousness lasting for hours, was once given up as dead, and had a serous apoplexy resulting in hemiplegia, from which he recovered in a few days. He was given up to die by all his attending physicians, and even by the doctors at Bad Nauheim when they first saw the case. The diagnosis was mitral regurgitation, with dilatation of the heart and hypertrophic cirrhosis of the liver. After a very careful and exhaustive examination of this man, and an analysis of his symptoms and history, and giving due weight to the physical signs, my diagnosis was myocarditis, mitral regurgitation, secondary tricuspid regurgitation and sequential engorgement of the liver. This man recovered sufficiently after his first trip there so that he

omitted a year; but he has been to Nauheim every season since. While undergoing treatment there he is in comparative comfort. When away he must occasionally resort to digitalis. A physical examination of this man, *even now*, would most certainly lead you to write out his death-bed certificate and leave it with his wife, and leave the date blank, expecting that a week at the outside would end the scene. This man certainly would have died with the most accepted treatment of the day. Nauheim's treatment has undoubtedly prolonged his life four years; it has caused diminution in the size of the heart and liver; it has removed dropsy and dyspnœa. It has caused the myocarditic process to stop—so says his physician. His doctor expects him back next year. I do not.

The other case is one I took special interest in. He was a male seaman, 52 years old, suffering from aortic stenosis, dilated aorta, and dilatation of the left ventricle. He had been found unconscious twice, was not dropsical, but the shortness of breath was so great he could not go half a dozen steps without the danger of falling or fainting. I examined him before he entered the bath. Pulse 90, feeble. Apex-beat one-quarter of an inch outside of left nipple not appreciable save by deep palpation. Area of cardiac of dulness to that part, and two and a half fingers' breadth to the right of the sternum. When five minutes in the bath his pulse had fallen to 34, was more tense, fuller, and of much better quality. After eight minutes, pulse 80, fuller and stronger. When he was dried, immediately after the bath, the apex-beat had receded to just within the nipple, the dulness on percussion had diminished by three-quarters of an inch on the left and a finger's breadth on the right, and the aortic second sound was less ringing and the pulmonary second sound not so accentuated. Pulse 85, but good. I have examined this man repeatedly, bath after bath, and noted a gradual diminution in the size of the heart and a bettering of the pulse, which was slower and fuller. His dyspnœa disappeared. I have walked two miles with him on the level without his showing signs of distress. Now, this particular case I feel fairly certain I could have handled at home very well. I have seen that picture, with and without the

aortic dilatation, and have re-established compensation with drugs and hygienic regulations, but I am frank to say that I probably could not have done so in such a short time. He was not given the movements. He did not have a drop of "drug," not even a glass of mineral water.

I here present his bath-record, in order to give you an idea of the caution employed in their administration:

Day.	Month.	Spring No.	Carbonic Acid.	Mother-lye.	Temperature. Cent.	Minutes.
15	July.	7	With	None.	32½°	8
16	"	7	"	"	"	9
17	"	7	"	"	"	10
18	Pause.					
19	July.	7	"	1 litre.	32°	12
20	"	7	"	1 "	"	13
21	"	7	"	1 "	"	14
22	Pause.					
23	July.	7	"	2 litres.	"	15
24	"	7	"	2 "	"	16
25	"	7	"	2 "	"	17
26	Pause.					
27	July.	7	"	3 litres.	31½°	18
28	"	7	"	3 "	"	19
29	"	7	"	3 "	"	20
30	Pause.					
31	July.	Sprudel.	" 7	None.	Natural.	8
1	August.	"	" 7	"	"	9
2	"	"	" 7	"	"	10
3	Pause.					
4	August.	"	" 7	"	"	12
5	"	"	" 7	"	"	13
6	"	"	" 7	"	"	14
7	Pause.					
8	August.	"	" 7	"	"	15
9	"	"	" 7	"	"	16
10	"	"	" 7	"	"	17
11	Pause.					
12	August.	"	"	"	"	18
13	"	"	"	"	"	18

At this juncture the patient was suddenly summoned home, before the completion of his course of baths. He was advised to return next season, to avoid alcoholics, violent exercise, use a moderate nutritious diet, and walk three hours a day—*i.e.*, an hour at a time—on a level. In reply to a question as to how he felt compared with when he came, he replied: "One hundred per cent." I replied that such an estimate was incorrect. Ir

correct, he would be well. He said: "I don't care how you figure it out; I know I feel all right, and don't 'blow' any more." A physical examination revealed a heart still slightly enlarged, the percussion and auscultatory evidences of aortic and cardiac dilatation much less marked than at a previous examination.

Comments.

The question naturally arises: What is the exact value of the Bad Nauheim or Schott treatment for chronic heart disease? Some writers, without even putting this interrogation squarely and fairly before them, have immediately jumped into print with the most laudatory commendations, and in their wild enthusiasm over the unquestioned results have failed to even estimate the vast army of unheard-of, unreported cases that unquestionably would materially alter their supersanguine exultation. A question of this kind must not be decided by enthusiasts. It must be viewed in a cold-blooded fashion, with unwinking eyes, in an endeavor to draw a just conclusion. The general practitioner who has little to do with cardiac disease, and handles his cases with gloved hands, must not be thrown off his guard by unwarranted assertions. Viewed practically, with the eyes of one who has seen considerable of cardiac disease, and from observations and directly on the spot, I must candidly admit that the treatment produces good—I had almost said marvellous—results in a great number of cases. In my opinion the Schott treatment is a distinct, a positive advance in cardiac therapeutics, provided it be properly and discriminatingly applied. Comparing the Schott treatment with the prevailing drug-treatment of the dominant school, the Schott method is by far and away the most effective in point of results, in point of absence of disagreeable symptoms, in point of time. Born of the suggestions of Stokes and Bercke, and developed, evolved, unified and rendered practicable by the labors of the Schott brothers, it is one of the greatest discoveries of practical medicine distinguishing this wonderful age of progress.

It is an insignificant minority, however, who can avail themselves of the benefits of Nauheim treatment. The questions of

time, expense, the difficulties of a foreign tongue, the inappetencies of a German table, as well as the ability of the patient to stand not only the ocean voyage, but a long and tedious railway ride, and paramountly, perhaps, the suitability of the case for treatment there, are all questions that have to be carefully weighed before a proper solution of a question of this kind can be arrived at.

The Schott brothers have all along said that the Nauheim baths can be fairly well imitated anywhere, and that nearly equal results can be obtained. I have personally seen several medical men who have obtained results from artificially-prepared baths, together with the Schott movements.

In another paper, soon to be read, I shall treat of the "Bad Nauheim Treatment of Cardiac Disease at Home," and shall give you some data as to the preparation of the baths and the method of the movements.

THE CLASSES OF CASES OF PULMONARY DISEASE IN WHICH THE CLIMATE OF ATLANTIC CITY, N. J., IS BENEFICIAL.

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I THINK it will be conceded without dissent that "climate" is one of the most potent remedies at the command of the physician. This being true, it is as essential that the prescriber should have an accurate knowledge of the "climate" he prescribes for his patient as it is that he should have definite knowledge of any other remedy. I have heard many, sometimes conflicting, opinions expressed concerning the advisability of sending cases of pulmonary disease to Atlantic City, and I propose to outline briefly the particular classes of cases in which this climate is valuable and of benefit. Before we get into "applied therapeutics" let us have a description of our remedy.

Atlantic City is located upon an island, which island is five

miles from the mainland, and faces very nearly south, and is the only island on the New Jersey coast that enjoys this southern exposure. It is wholly surrounded by unmixed salt water. Atlantic City has a resident population of 22,000, and cares for a transient population which varies throughout the year from 60,000 to 150,000. It has seven hundred hotels and boarding-houses, some of them the finest hotels in the country. It has four thousand private residences and forty miles of beautifully-kept streets. It has no industry save that of catering to health, and upon this sole foundation it has grown from a village of 1000 in 1870 to a city with 22,000 in 1897. It has an annual death-rate of eleven to the thousand. It has forty-eight practicing physicians. It is the only all-the-year-round health resort in America. Its water-supply is from springs and deep artesian wells. Sewerage disposal by a system of lead-jointed iron pipes, being the system known as the "West Filtration System." Garbage disposal to the amount of one hundred tons per diem by crematory.

The climate has two grand characteristics: 1st, "absence of humidity," and, 2d, "equability of temperature." These are the sole explanations of its phenomenal growth and reputation. The climate is remarkably free from wind, there being less than half the amount experienced by some of the New Jersey coast stations. There is a very curious fact, verified by the statistics of eighteen years, and that is that the annual rainfall is almost uniformly three inches per month. This is very low. The soil being a dry white sand, there is no evaporation to produce humidity of the atmosphere after a rainstorm. There is no snow in the winter, and no humidity in the winter and very little in the summer. There is a remarkable freedom from fogs, and those that do drift in are almost invariably dry. It is notorious that the "beaches" lying off the coast are much more free from fog than the mainland. There is no rapid fall of temperature after sunset. The winter climate is particularly clear and bright, free from wind, and devoid of fog or mist. There being no vegetation, there is absolutely no malaria.

The equability of the climate is due to the proximity of the

Gulf Stream and the island being surrounded by water. Water absorbs heat and parts with it by radiation more slowly than the land; hence in hot weather the water is comparatively cooler than the land, while in cold weather it is warmer. The climate is stimulating, very much more stimulating than that of the adjacent coast. This quality of "stimulation" is the "*key-note*" to be borne in mind in considering this climate as a remedy for a case of pulmonary disease. Atlantic City is a "stimulant." There is, indeed, a sedative or soporific *quality* in the atmosphere, due to the evaporation into it of various bromides, iodides, etc., that causes it to be sought by patients suffering from insomnia. It also exerts upon many nervous maladies a "sedative" effect; but for the pulmonary invalid it is to be thought of always, and primarily as a "stimulant."

Now the first class I want to consider is not, strictly speaking, pulmonary, but closely allied thereto; I refer to throat cases. Throat diseases all do well in this climate except those cases of tuberculosis of the throat that have had or might have hæmorrhage. These latter cases should be kept far away from this dry, stimulating climate, because it will almost invariably cause and increase the tendency to hæmorrhage.

The second class of cases, and these are also not pulmonary in a strict sense, are the victims of hay fever. Hay fever sufferers are benefited in three ways:

(*a*) By the general improvement wrought, the increased metabolism attained, and the more effective elimination of uric acid secured, the "*predisposing*" cause may be removed. Here we secure "the all around" tonic effect of the climate.

(*b*) By the healing, alterative qualities of the atmosphere, laden as it is with the emanations of iodine, bromine, chlorine, ozone, potash, etc., and applied to the whole respiratory tract, particularly the nasal portion; at each and every respiration the "*determining*" cause may be partially or totally abated.

(*c*) In consequence of the freedom from contamination by pollen, dust or other irritating matter (due to the paucity of vegetation, the non-existence of factory smoke, etc.) of the atmosphere, the "*exciting*" cause of the paroxysm does not exist; and while of course the victim is *still* a victim, as he is in

January, when he thinks himself free from hay fever because he is not exposed to the *exciting* cause, still the manifestation is prevented, and he rejoices accordingly. Much of what I have said of hay fever will apply as well to asthma, particularly the influence of the climate on improved metabolism, increased oxidation and augmented uric acid excretion; preventing the uric acid bronchitis and vaso-motor spasm, so frequently the diathetic state upon which the asthmatic exhibition is predicated.

The third class of cases that are benefited by the climate of Atlantic City are the convalescents from la grippe, pneumonia, capillary bronchitis, etc., *et al.* To these the climate is a veritable El Dorado of health, and the benefit is direct and indirect—direct, because the irritated, inflamed and perhaps torpid mucous membranes are bathed in the balmy, soothing, salt-laden emanations from the ocean; and indirect, because of the warm dry air, the absence of high buildings crowded together (converting streets into flues), the commodious boardwalk, with its inviting accessories of rolling chairs, pavilions, casinos, ocean piers, etc., which permit the convalescent, be he ever so feeble, to get out in the blessed sunshine. And if he cannot attain this outing by reason of feebleness, he can sun himself in one of the luxurious "sun-parlors" if in winter, or porches if in summer, with which all the hotels are fitted. And here let me tell you a little incident. I was called one day last March to see an elderly lady, who had been sent from Pittsburg to recover from a severe attack of bronchopneumonia. I found her with high temperature, dry, hard cough, very much discouraged and homesick. After listening to her sister's narrative, which was full of disappointment, distress and alarm, I examined the patient carefully, who was only anxious to get well enough to journey home, saying she had been here two weeks, had not improved, and had "taken cold" every time she had gone out-of-doors, and "the air was too strong for her." I listened patiently to her tale of woe, spoke encouragingly to her, saying I was confident she would soon be well if she would stay and confine herself to the hotel and its sun-parlor. She retorted at once: "I would rather be at home

if I have to be housed up. I have a good deal pleasanter, larger room at home than this little box," looking around with contempt at the cosey hotel room. And I replied: "True, but then your room, so large and lovely at Pittsburg, is filled with Pittsburg air, and your room here in this hotel is filled with Atlantic City air, full of sunshine, ozone and salt, identically the same air you would breathe out on that boardwalk, only not so cold, being warmed in here by the steam radiator." This appealed to the dear old lady, and she stayed and got well. But this truth is often overlooked. Many patients who come think, if they are ordered to go up in the town, away from the too strong air of the ocean front, or are required to keep in-doors for a few days to get acclimated, that they are not getting the fullest benefit possible out of their visit, and are often dissatisfied.

To return to the convalescent. It is wonderful with what rapidity the lesions indicative of retarded convalescence will clear up in many of these cases. Bronchioles and air cells, agglutinated by exuded serum, will open and admit the inspired air. Areas of consolidation will disappear, the distressing cough and its attendant expectoration will soon follow, the appetite improves, renewed vigor is manifested, and the patient soon begins to inquire when he may get home to the business of life again. In many cases of this class the benefit is largely ascribable to the antiseptic qualities of the atmosphere as well as to its general stimulating effect.

The fourth class of cases benefited by the climate—and this is the main or largest class—is the class of chronic bronchitis, catarrhal phthisis, fibroid phthisis, etc.—cases in which a stimulant to the bronchial membranes is demanded. Atlantic City has among its store-keepers, hotel-keepers, and private residents, hundreds of people who have been cured here of chronic bronchitis—they will tell you "lingering consumption." This class is pre-eminently the class that receives the most benefit from the climate. Nor is this to be wondered at if we bear in mind the cardinal characteristics of the climate, to wit, the "lack of humidity," and "stimulation." The climate is a "sterile, dry-air antiseptic" by virtue of the iodine, bromine,

chlorine and oxygen it contains, and a "stimulating expectorant" by virtue of the chlorids and bromids of ammonia with which it is laden; and this is particularly true of the ocean fogs, which are dry fogs. If one of these dry fogs occur, I always phone my patients with pulmonary troubles to keep out in them as much as possible, and I have never known a patient to "take cold" in one of these fogs. Temperature is of no importance in a climate; the great desideratum is the humidity. A cold climate, if it is dry, agrees with diseased lungs just as well as a warm one.

The fifth class of cases in which the climate of Atlantic City is indicated as a remedy, and the last I shall mention, are the cases of tubercular consumption. Not a few cures of undoubted cases of this dread disease, in the incipient stage, can be credited to Atlantic City. If such cases are sent here when there is early apical affection, and little constitutional disturbance, they often do remarkably well. Cases presenting consolidation but no excavation also improve. Or perhaps a case of early involvement presenting a small, quiet cavity might undergo repair.

Cases of hereditary predisposition seem to be the most promising ones, as I have studied them; probably because of the general constitutional improvement and resistance that obtains, together with the antiseptic qualities of the atmosphere, and the absence of humidity and comparative immunity from rapid oscillations of the temperature. One great factor in this class of cases is the universal fashion here of living out-of-doors. People congregate at the hotels only at meal times. After meals everyone goes out-of-doors. It's the fashion. And "the fashion" is so hard to resist. The proclivity to go with the crowd develops very early in life.

Lastly, to wind up this paper, having told you the classes of cases in which the climate is indicated as a remedy, I am going to say a few words about the classes of cases that do not do well here. These are:

a. Distinctly! any case with a tendency to hæmorrhage, be it from the nose, the throat, or the bronchia. We send them away at once. The dry, stimulating air will increase and perpetuate the tendency to hæmorrhage.

b. Cases of well-marked or advanced tubercular phthisis do not do well; force and energy is communicated to the disease, and the stimulating effect of the climate will quicken the destructive processes into a gallop; all the sinister symptoms will be increased; cough, expectoration, hectic, embarrassed breathing, night-sweats, will all be aggravated. Such cases will do much better in the warm, *sedative* climate of the "pine barrens" of the interior of Southern New Jersey, or Asheville, N. C., or Thomasville, Ga., or some other similar sedative climate, which, while it lacks the stimulating, curative influence of Atlantic City, is conservative of all the vital energies. In such a climate the poor sufferer can be nursed, coddled, protected, taken out-of-doors in the warm, quiet sunshine in clear weather, and his life prolonged, long, long days after the climate of Atlantic City would have killed him.

c. Another class with whom the climate of Atlantic City does not agree, and in which it is contraindicated, is certain cases of *dry* bronchitis and asthma (often of gouty origin, but not always, I have observed), who need a *moist* climate. The dry, stimulating air of Atlantic City is irritating to them, and provokes cough, and aggravates their oppression of breathing. The warm, humid climate of Florida does much better for them. I know one such case who always suffers, all the time he is in Atlantic City, with a dry, teasing cough, and a band-like constriction and oppression of the chest, and yet who lives in perfect comfort in Charleston, South Carolina, or St. Augustine, Florida.

REPORT OF THE SECTION OF OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

Résumé of Progress, by William Spencer, M.D.
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Nasal Dilatation, by H. K. Hoy, M.D.
Mydrin—Ephemeral Mydriasis, by Bushrod W. James, M.D.
Adenoid Vegetations in the Naso-Pharynx, by H. F. Schantz, M.D.
Ptosis—Its Surgical Treatment, by G. W. Stewart, M.D.
Diagnosis and Treatment, by Horace B. Ware, M.D.
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Galvanism in Xanthoma, by Horace F. Ivins, M.D.

RÉSUMÉ OF PROGRESS.

WILLIAM SPENCER, M.D., PHILADELPHIA.

Eye.—A new method of treating pterygium.

Coe, in an article in the *Annals of Ophthalmology and Otology*, acting upon the hypothesis that the cause of the growth was in the apex, and that the vascular supply of new vessels was simply a demand for nutrition, applied the cautery, at a red heat, to the apex, with the result of causing complete disappearance of the growth.

In a case of traumatic prolapse of the lachrymal gland, reported by Haltenhoff, of Geneva, the gland was recognized and excised, the palpebral portion being left. There was no perceptible difference in the moistening of the eye, nor in the flow of tears, which would be in favor of De Wecker's theory that emotional lachrymation, found only in man, is a function solely of the palpebral glands, which are absent in the lower animals.

Blok, of Rotterdam, has found, microscopically, no difference in the healing process in corneæ which have been incised

with or without cocaine, and denies any effects of the drug in the healing process of corneal lesions.

From an analysis of one hundred cases of blepharitis, Clarke, of London, concludes that blepharitis is essentially a disease of youth, and that when present in older patients it has existed since youth. It is an expression of asthenopia, the result of an invariably present ametropia. Asthenopia marks its presence by blepharitis, especially in strumous patients and those who exhibit a tendency to eczema.

It is believed by Schöen, of Leipzig, that accommodative strain from hypermetropia and astigmatism may result in simple cyclitis and chorio-retinitis, which are capable of being cured by the adjustment of proper spectacles and the application of cocaine and atropine. Women have a predisposition to iritis serosa, while men acquire it in rheumatism and syphilis, the accommodative strain merely acting as the excitant. He thinks that this strain may produce pathological changes in the ora serrata, which favors prolapse of the lens and protrusion of the iris, and finally the production of absolute glaucoma.

As a proper method of correcting oblique astigmatism, Savage, of Nashville, advises, primarily, the correction of one-fourth of the astigmatism, this to be replaced in a few days by a correction of one-half of the astigmatism, and so on, until the full correction is worn. This method gradually relieves the distortion of the images and transfers the strain from the inferior to the superior obliques.

Bach, of Wurzburg, by a series of experiments in producing nystagmus on the normal individual and the deaf and dumb, concludes that nystagmus is dependent upon associated movements of the head, and that it has a connection with the lymph in the labyrinth of the ear.

Andeond, of Geneva, thinks that the central nervous system plays an important part in these cases, and agrees with Du Saulle in believing the nystagmus to be a stigma of pathological heredity, it being generally found only in those who come of families that are mentally defective.

The Röentgen rays have been used very successfully in ophthalmic surgery. There seems no doubt but that we have

an accurate and reliable method of establishing the presence of foreign bodies in the eye-ball by the use of the X-rays. The simplicity and rapidity with which these pictures are taken make the process very practicable—simply bandaging the plate to the side of the head, arranging the Röentgen tube eight to fourteen inches distant in front to the nasal side of the eye—an exposure of one-half minute being found sufficient to give a clearly-defined picture.

Oliver, of Philadelphia, as a result of a clinical study of scopolamine, extending over a period of two and a half years, finds it a most valuable acquisition to the list of mydriatics. He failed to observe any serious general intoxicant effects, even in certain cases where frequent instillations of the drug had been made.

The reparative action and quieting powers in the treatment of plastic iritis are much more promptly attained than with similar doses of sulphate of atropine, and even with doses equal to quadruple. The duration of the healing and soothing powers of scopolamine are not as great as those of atropine.

When quick and active measures are eminently necessary, and also during the early stages of inflammatory reaction, scopolamine is preferable to the atropine.

When prolonged use of drugs of this class is necessary, the alternate use of the two drugs seems empirically to be the best method of local administration. He has never seen intra-ocular tension increased during the course of his experiments.

The author of this report has made a thorough study of scopolamine as a mydriatic in refraction work. This practical personal experience covers a period of over two years, and a total of more than 1500 cases.

From this experience he finds the drug has many advantages not possessed by the other mydriatics, especially in refraction work, which ought to commend it to our careful consideration.

1st. Its convenience in applying, a single instillation of a very weak preparation of it being sufficient and efficacious.

2d. Its rapidity of action. In the majority of cases the full effect and complete paralysis of accommodation will be obtained in half an hour.

3d. The convenience, enabling you to apply it while the patient waits in your office. You can thus make not only the preliminary, but a thorough examination, with the accommodation paralyzed, at a single visit. This is a very important matter with persons who consult you from a distance.

4th. The condition as well as the appearance of the eye. Instead of having a congested, reddened and swollen conjunctiva, you will have a pale, anæmic or normal condition.

5th. The safety. The danger of exciting an increase in the intraocular tension is much less, at all events, than with any of the other mydriatics. This is particularly valuable in cases where there is a predisposition to glaucoma.*

Argonin in 5 per cent. solution instilled into the eye has been used with great success in gonorrhœal ophthalmia.

It destroys the gonococci, and in four or five days the discharge ceases. It is less irritating than nitrate of silver, and should be an ideal remedy in purulent ophthalmia.

Eucaine is the name of a new anæsthetic, introduced by Chemische Fabrik auf Actien. Its formula—$C_{19}\ H_{27}\ NO_4\ HCl$. It is said to be cheaper than cocaine, less toxic, and free from after-effects and various other untoward properties. It is claimed for this new drug that it—

(*a*) Does not paralyze accommodation.

(*b*) Does not dilate the pupil.

(*c*) Does not condense the tissues.

(*d*) Its solution is stable and keeps indefinitely.

(*e*) Does not cause a corneal cloudiness.

(*f*) Possesses slight antibacterial action.

As a result of a clinical study of the drug as to its comparative value with cocaine, M. Reclus gives the following:

1st. That the injection of cocaine is not at all painful, while that of eucaine causes a certain smarting sensation.

2d. Eucaine is a vaso-dilator, while cocaine is a vaso-constrictor; with the former the field of operation is clouded by the blood.

3d. Eucaine is certainly an excellent analgesic, although in

* *The Hahnemannian Monthly*, July, 1897.

deep operations the perception of pain seems to be somewhat more distinct than with cocaine.

4th. In an operation with cocaine anæsthesia is still complete an hour and ten minutes after the operation, while with eucaine it disappears after forty-five minutes. He preferred cocaine, as it presented warning symptoms of intoxication, while eucaine overcame the patient without any premonitory signs.

The method of treatment by subconjunctival injections of sublimate solutions is still on trial, and should not be promiscuously employed in all sorts of cases as part of, or in place of, the routine treatment.

It must stand or fall on its merits, and these can only be ascertained by careful and long-continued observation of a large number of cases.

The severe pain and the occasional violent reaction produced by the injection must always be a bar to the universal employment of this method of treatment.

In blenorrhœa neonatorum, the substitution of a 1 per cent. solution of bichloride of mercury for nitrate of silver of Crede's method, as suggested by Müeller, should never be made, as albuminate of mercury, so formed, produces rapid destruction of the eye.

A 1 to 5000 potassium-permanganate solution is strongly recommended as a free irrigation, two or three times daily, in ophthalmia neonatorum.

Formalin has also been used, 1 to 2000 strength, as a wash, and 1 to 200 as a collyrium, with excellent results.

Berry, of Edinburgh, has found chlorine-water the safest and least irritating of antiseptics, and especially useful in suppurative, traumatic and sympathetic ophthalmia.

He injects four drops of a 4 per cent. solution into the centre of the vitreous, through the sclerotic, between the insertions of the external and superior recti muscles.

Duclos, of Bordeaux, reports sodium fluoride as having superior bactericidal properties, and has used it in one-half per cent. solution, with excellent results, in dacryocystitis.

His method is to irrigate the sac and duct, without dilata-

tion, if possible. He claims that the substance stops all bacterial action in 1 per cent. solution, and that it is totally unirritating in such strength.

The subcutaneous injection of bichloride of mercury in so-called rheumatic paralysis of the external rectus is advocated by Martin, of Bordeaux. He employs daily doses of 1 cubic centimetre of a 1 per cent. solution, injected into the buttock or into the temple. Of four cases thus treated two were cured in nine days, one in eighteen days, and one in forty days.

Quinia muriate, in appreciable doses, has been used with great success in controlling the severe neuralgic pains occurring in iritis and various other diseases of the eye. It also exercises a very beneficial influence over the progress of the disease, especially if malaria complicates the trouble, and the pains are intense and intermittent in type.

Proto-nuclein, used internally, or the same dusted in the eye, has cured corneal ulcers very rapidly.

Bryonia for iritis from cold in rheumatic subjects, in which there is sharp-shooting pain through the eye into the head, aggravated by motion and relieved by pressure.

For absorption of lens fragments after cataract operations senega is efficacious.

Aristol has been found by Hense, of Elderfield, to be of value after the failure of other measures in cleansing the base of corneal ulcers. It is applied in powder, the eye being closed for a few minutes after its application.

It is also of value in ulcerous blepharitis and in obstinately recurring styes, employed in the form of a 5 per cent. salve.

An ointment composed of ichthyol one part, lanolin six parts, has been found by Germania to be very efficacious in blepharitis ciliaris, in curing cases that resisted the yellow oxide of mercury ointment.

He also finds that phlyctenular conjunctivitis, as well as the simple catarrhal form, are benefited by collyria, containing from 1 to 3 per cent. of ichthyol.

Boyle, of New York, brings to our notice, as a result and through clinical experience, kali muriaticum, cannabis sativa, and aurum metallicum, in a class of diseases dependent either

upon scrofula or inherited syphilis. In parenchymatous keratitis, the key-note symptoms for kali muriaticum are haziness of the cornea, absence of redness, and pain.

The indications for cannabis sativa are a haziness of the cornea, which is accompanied by more or less of a vascular condition—so much so, sometimes, that the cornea appears blood-red; also some pain, photophobia, and lachrymation. Aurum metallicum is one of the best remedies, but the symptoms are more pronounced than in the two former ones. With this remedy, besides having a vascular and hazy cornea there is very great redness, with so much pain, photophobia, and lachrymation, that it is not always easy to examine the eye.

EAR.

A series of therapeutic experiments has been reported by Dr. Cohen Kysper, of Hamburg, and advanced as a new method of treating deafness.

The author introduces into the middle ear solutions of ferments, which have the power to dissolve albumin, for the purpose of inducing a process of digestion of the hyperplastic material, as well as of the connective-tissue products, which follow catarrhal and suppurative manifestation of the tympanic cavity. For this purpose he employs a chemically pure solution of dog's pepsin which has been passed through a bacteria filter.

The author states that an actual digestion of cicatricial tissue takes place.

This is explained by the improvement in hearing within an hour after the treatment. In some cases the procedure is quite painful and narcosis is necessary. Otherwise it is free from danger, and beneficial in the majority of cases.

Deafness, due to sclerosis and other disturbance of the transmitting apparatus of the ear, treated by the operative method of excision of the ossicles, is receiving some notice in journals on otology, although interest in the subject is decreasing.

There is no doubt but that in carefully selected cases good results have been obtained from excision.

When Rinne's test is applied and the cranial perception of

the diapason is superior to the aërial perception, a benefit from an operation is indicated. Some operators claiming the best results in hearing have been obtained in cases of early removal of the bones, in advanced stages the operation must be looked upon as largely experimental.

For deafness and tinnitus aurium, the result of a sclerosis of the middle ear and of the weakness of the muscle of the middle ear, electricity, in the form of the faradic or galvanic currents, offers a form of treatment highly recommended by its advocates.

It is a difficult matter, however, to say which current, whether the continuous or the interrupted, is the more efficacious, or whether every case is a "law unto itself," as there seems to be no general agreement on this question. Some operators, deriving benefit from the faradic current, "which should be preferable in case the deafness is the result of a weakness of the middle-ear muscles," believe that the continuous current should not be employed, as its influence upon the ear is injurious, and *vice versa.*

Hoover, of New York, recommends the use of tincture of iodine in suppurative otitis media. The topical application is made two or three times a week.

There is no pain, and the burning sensation ceases by the exclusion of air.

CONGENITAL AMBLYOPIA.

W. H. BIGLER, M.D., PHILADELPHIA, PA.

In treating of the subject of amblyopia we wish to exclude from consideration all those forms dependent upon abnormal conditions recognizable by objective examination. We leave out of view, therefore, all those forms resulting from changes in the refractive media, whether the consequence of injury or disease-corneal or lenticular opacities; all those forms, too, accompanying systemic affections, hence such as poisoning from alcohol or tobacco. We confine our study, therefore, to congenital amblyopia, which we have no hesitation in believing

lies at the bottom of all the other forms, except those which are sometimes, but wrongly, classed as amblyopias, but which are merely the result of mechanical interference with the entrance of the rays of light. That these can hardly be ranked as amblyopias is evident from the observed fact that after the removal of a cataract which has been present for as long a time as twenty years, the acuteness of vision in the retina has been found to be normal.

The amblyopia to which we have special reference is that subnormal acuteness of vision which we find existing in an apparently perfectly normal eye, the true nature of which has not yet been definitely determined. Authorities are not yet agreed whether it resides in the percipient layer of the eye, the retina, or in the conducting power of the optic nerve, or, finally, in the percipient visual centres in the cerebrum. As we shall see further on, the latest investigations into the growth and development of the nervous system are furnishing many significant data having a direct bearing upon the determination of this question.

We have all no doubt in testing the refraction of our patients been struck with the fact how very rarely we find one in whom the acuteness of vision is alike in both eyes. We may, after the most careful examination, find that the refraction of the two eyes is the same, and yet that there is a difference, sometimes greater, sometimes less, between their respective acuteness of vision. We think that a careful questioning will find this to be the fact in the majority of cases. The difference may be very slight, so slight as scarcely at first to be perceptible to the patient, but by rapidly closing first the one then the other eye it will become evident. Frequently this amblyopia may be so trifling that the same line of the test-card can be read, but with a feeling of a certain want of strength or directness of vision in the one eye not noticeable in the other. The feeling is analogous to that experienced when attempting to perform with the left hand work usually done with the right, and it is with this analogy that we have been in the habit of quieting the anxiety of our patients, naturally excited by a suddenly recognized defect in vision.

This analogy is, we think, more than a mere superficial one. We are unfortunately unable to say which eye, the right or the left, is most frequently amblyopic. It would be not only an interesting but a profitable line of inquiry to determine this point, as well as the question whether and in how far it is modified by the right- or left-handedness of the individual, and whether a cultivated ambidexterity would prevent or assist in curing this form of amblyopia.

Even when both eyes are amblyopic we will usually find one a little more so than the other, although in our experience this has not been so nearly uniformly the case as where one eye has normal acuteness of vision.

Starting with this congenital amblyopia, the development or not of a higher degree, and amblyopia ex anopsia, will depend upon certain circumstances. If the difference between the eyes is so great that the poor vision of the one tends to lessen the acuteness of binocular vision, the cerebrum instinctively suppresses, or, better, ceases to become cognizant of the impulses received through the amblyopic eye, until, from want of use, its vision will deteriorate more and more, and finally may be practically lost. If there is a want of stability in the equilibrium of the external muscles of the eyes, a slight amblyopia of the one will be sufficient to weaken the reflex impulse necessary to produce and maintain proper convergence of parallelism of the visual axes, and we have strabismus resulting. At first this will be intermittent and alternating, but if combined with any decided refractive error it will soon become permanent and monocular, the more amblyopic eye being the one naturally fixed. From this condition we have as a necessary result a constantly increasing amblyopia from disuse.

The constancy and rapidity of the occurrence of these changes depend, further, much upon the habits of the person. Where the eyes are used principally for distant vision, or where perfect distinctness of vision is not demanded, these consequences do not so invariably follow.

An explanation of these facts and valuable guides in the treatment of these conditions, both as regards prevention and cure, will be found in the results of recent investigations into

the minute anatomy of the nervous system, its growth and development and decay.

The following points have been established by these researches:

The number, as well as the intensity, of our sensations and perceptions depend upon the number and connections of the neurons, nerve-cells and nerve-fibres.

The number of these increases from birth to about the thirty-fifth year, remains stationary then from fifteen to twenty years, and finally begins to decrease by atrophy. By actual count, between the sixteenth month and the thirty-fifth year the nerve-fibres and cells have been found to increase 1300 per cent.

Given normal nervous elements, their specific excitation will result in healthy growth and increase, while want of use will cut short their development and finally cause their atrophy.

Although these facts have been demonstrated in the eye, as far as we know, only in regard to the development of the color-sense, yet we think we are justified in accepting them as applicable to the whole phenomenon of visual perception.

Since, then, perfect vision is the result of the normal development of the normal nervous chain whereby the vibrations of the ether are received, conveyed and translated into what we call sight, a congenital subnormal acuteness of vision will be dependent upon some abnormality in this chain. This abnormality consists, no doubt, most frequently in imperfect development, the result of conditions of our habits and civilization which have long been operative, just as in the analogous case of the almost universal prevalence of right-handedness. But a very small part of the myriads of nerve-elements capable of development are ever brought into play by our present methods of education. As we have just seen, such imperfect development may in a great measure be remedied by the application of the proper stimulus. Fortunately, no matter in what part of the nerve-chain concerned in vision this imperfection may reside, stimulation of the retina will tend to excite and develop all the other fibres and cells, so that we have in this the fundamental indication for treatment — systematic stimulation by regulated use of the eyes.

Since growth and development continue only for a certain number of years, after these have passed we cannot look for improvement, and should be, therefore, the more anxious to begin the treatment at as early an age as possible. In the years of infancy and childhood the prospects of a successful treatment are more encouraging, while the dangers of irremediable complications are more imminent. The first discovery of a congenital amblyopia should be the signal for at once instituting systematic exercise of the visual function. It must be systematic and based upon the knowledge that the purpose of such exercise is directly to stimulate certain nerve-elements through the agency of light, and should be applied with the same care and forethought as electricity in the treatment of paralysis.

Of course where there is considerable refractive error this must be corrected, so that the stimulus to the retina may be as energetic and precise as possible. Where strabismus has already resulted it must also be corrected, either by tenotomy or by the use of mydriatics and correcting-glasses, being careful to avoid prisms. In high degrees of amblyopia the exercises will be at first by large, brightly-illuminated objects; in lower degrees by smaller and more indistinct objects. As in bodily exercise, so here, a healthy fatigue is desirable and beneficial, while fatigue amounting to exhaustion, even if of but short duration, must be avoided.

It is not impossible that we may be aided in our efforts by the administration of internal remedies, probably the so-called "tissue remedies," and of these we would think first of *magnes. phos.*, *kali mur.* and *kali phos.*

NASAL DILATATION.

H. K. HOY, M.D., ALTOONA, PA.

THERE can be a great deal accomplished by carefully selected remedies in the treatment of catarrhal affections. Sometimes the results are beneficial, almost to unbelief. The parts con-

sidered in this paper are those involved in what is known as nasal catarrh; and while it is true that there are many good results from prescribing, it is also well known that many cases do not respond, and this may in a measure be accounted for by the various circumstances with which the lesser lights in practice have to contend, such as time consumed, leading to loss of faith in cure by patient, the expense involved, and the volunteered advice of friends of the patient. Local applications also do much to assist in some cases.

There is a class of cases, however, in which operative measures are necessary if a permanent good result is to be had, and it is to these that nasal dilatation applies. In these cases there is occlusion to such an extent that the cautery and local applications only help in part, where it is almost impossible to use a snare, and where saw, chisel or drill would be imperative to accomplish any permanent good, in opening the nasal passage to give free breathing and cleansing the space. The object of nasal dilatation is simply to get encroaching parts out of the way, and applies especially to the bony surroundings of the nares, and remaining turgescences and fleshy hypertrophies can then be gotten at more satisfactorily.

The instrument which I use for this purpose is manufactured by E. A. Yarnall & Co., of Philadelphia, and was designed by Dr. Sinexon for the express purpose of fracturing a crooked nasal septum. For its purpose it is intended to enter one nostril only, but for full nasal dilatations I straddle the septum with the blades, and have no particular difficulty in inserting the curved blades (which are three and one-half inches long) to such an extent as to thoroughly do the work.

In dilating, the turbinated bones involved are felt giving as the offending part is pushed aside. As the instrument is partly withdrawn after full dilatation posteriorly, it is again used; and this is repeated still more anteriorly until the parts are opened to the full extent of the dilator, which is one and one-eighth inches, throughout the entire course of the nasal passage.

When it comes to the nasal bones, or bridge of the nose proper, they are very firm, and while I have not rested until I had full dilatation, they seemed to spring back, so that not

much of an opening remained, as compared with the space while dilating; but the benefit comes from getting the sides of the turbinated bones out of the way; they are thin, they will yield readily, and remain where you put them.

I think an improvement can be made on the Sinexon instrument for my purpose. The blades close tightly from joint to end, which is perfectly proper for work upon the septum; an instrument with a small offset on each blade at joint, allowing space for covering nasal septum, would be more easily applied. My experience has not been large in this line but it has been very satisfactory, as the following cases will illustrate:

Case I.—J. P. H.; age 28; occupation, repairing-work on locomotives; subject to successive extremes of heat and cold, and soot and dirt, has for years been a very severe sufferer from nasal and throat catarrh, with very marked hypertrophies in both nostrils and proliferations in throat, constant hawking of mucus, dropping of mucus from post nares into throat at night, and expectoration of large, hardened plugs of mucus, mornings. Applied for treatment January 5, 1897. Internal remedies, supplemented by applications of iodine and glycerine locally to the parts, with several thorough cauterizings (actual cautery) were resorted to until March 6th. Although apparently much improved, there was still complaint of difficulty to breathe, especially at night, when one or the other nostril would close entirely, according as patient lay in bed; and the secretions were still present to some extent, the formation of plugs having ceased, and the latter was probably due to the frequent cleansings and local applications. March 6th the nostrils were cocainized and the parts thoroughly dilated. There was some hæmorrhage, very much pain—so much that I shall not recommend the operation under cocaine again where constitutional anæsthetic is allowable. Cotton saturated with geranium maculatum inserted into the nostrils controlled the hæmorrhage; arnica was given internally. The patient felt some soreness the next day and rested; on the following day he was back to work. After healing took place one application of diluted peroxide of hydrogen spray was administered, followed by an application of the iodine and glycerine mixture to the parts. This was

March 20th. Since then I have seen this patient frequently, and he is as free from his former catarrhal condition as any one can be. He says, "It is a perfect cure." Although he was improved from the former treatment, I must credit the dilatation of the nares with the radical cure in this case.

Case II.—F. G.; age 30; occupation baker; has been for years very seriously affected by attacks of sneezing, provoked by changes in temperature, presence of dust, and especially flour in the air, with which he daily came in contact. The latter became so burdensome that he thought seriously of being compelled to abandon his occupation.

Having been offered a good position in Pittsburg, he called upon me to ascertain whether anything could be done to arrest the attacks of sneezing. Examination revealed hypertrophies, with the usual accompanying appearances, and symptoms of cases of chronic nasal catarrh. I advised dilatation and further treatment, but as his position required his immediate presence, he decided to have the dilatation performed and "trust to luck for the balance, for the present." The A. C. E. mixture was used as an anæsthetic, the dilatation performed, there was a very slight hæmorrhage, and on the second day following he left for Pittsburg, and has been following his occupation ever since. No other treatment was used. Fortunately I met the gentleman this morning, August 14th. He says, "I rarely sneeze now, except when I take cold; the presence of flour in the air does not bother me."

Case III.—C. S.; age 35; occupation, printer; has for years been having difficulty in breathing, especially in fall, winter and spring seasons; at times constant hawking and spitting, working out great plugs of mucus, mornings; sick stomach, which he "thought due to the catarrh all through his system." Mind affected so, he feared losing his reason. Now, this gentleman is naturally bright and intelligent, very well educated, and yet he was run down to such an extent that his mental powers were on the verge of imbecility, in a certain sense. He is a man of good habits, so far as I know. Applied for treatment December 18, 1896. I treated him both internally and locally until May 20, 1897. Several times the actual cautery was em-

ployed to remove hypertrophies. He improved to such an extent that he was well pleased with the treatment, and was a very faithful patient; yet he was not cured. On the 20th of May I dilated the nostrils under chloroform. I did the work, and redilated a few moments later, thinking I would do it with the greatest thoroughness possible. Suddenly a gush of blood that was alarming came from both nostrils and mouth. In less time than I can tell it, from about a pint to a quart of the red liquid gushed out, and I thought nothing else than that I would lose the patient before I could control the bleeding. As quickly as possible I saturated absorbent cotton with geranium maculatum and stuffed the nostrils full of it from front to rear; the bleeding stopped as suddenly as it began, the cotton remained for some days, when patient removed a part, and I removed the balance later. One local application was given to nose and throat about two weeks later; since then he has not found it necessary to resort to treatment. Hereafter I shall have no hesitation in resorting to nasal dilatation in this class of cases, and I present this paper in the hope that others who may be led to try this method will have results as satisfactory.

MYDRIN—EPHEMERAL MYDRIASIS.

BUSHROD W. JAMES, A.M., M.D., PHILADELPHIA.

Every oculist knows the importance of rapid dilatation of the pupil for ophthalmoscopic work in many cases of older people, and those who have an unusually contracted pupil, and in many nervous people as well.

For years I have felt the need of such an agent as would quickly act and yet not influence the accommodation, as do homatropine hydrobromate, atropine, hyoscamine, and some other mydriatics that could be mentioned.

Reading an extract from Dr. Cattaneo's article (*Clin. Moderna*, 1896, No. 6) on the subject about one year and a half ago, I immediately obtained some of the preparation and put it into

use in my private office, as well as at the clinics in my eye department.

Dr. Cattaneo claimed, and Dr. Groenouw since confirms it in an article in the *Deut. Med. Wochensch*, xxi., p. 961, that mydriasis begins after about eight seconds, and that its maximum is reached in thirty seconds, this being kept up for at least half an hour, the effect passing off in from four to six hours, with a ten per cent. solution.

My experience of a year or more with it proves it to be a most remarkable agent for rapid work, with the ophthalmoscope, in fundus examinations, as well as in lenticular or vitreous cases.

The dilatation is quite equal to that of atropine or homatropine, and for all ordinary examinations twenty minutes suffice for the patient to wait before making the examination of the fundus and transparent media, even with a weaker solution than ten per cent.

If I desire to make out every detail of the fundus I allow the patient to wait thirty minutes, and when the ophthalmoscopic examination is over I can go right on with the refraction work, if such cases do not require the control of the ciliary muscle, although I always prefer to make the refraction examination before its use.

In careful examinations for cataract or opacities of the vitreous, and in changes in the extreme periphery of the fundus oculi, oculists will find it a most valuable adjunct in such ophthalmic work.

I have never had any after-effects thus far result, and no unfavorable sensation has been mentioned by any of the patients on whom I have used it, and on the cases where I observed carefully the early use of the remedy they were free from the mydriatic effect in from five to seven hours.

I have observed no head symptoms nor any great disturbance, such as atropine, and occasionally even homatropine, will sometimes produce in nervous cases, and in those subject to cerebral disturbances and headaches.

The way I have used it has been five grains to forty-five drops of distilled water.

I purchase the powder and make the solution myself, and make it frequently, in order that it may not become impaired in value, as cocaine does after standing awhile. On evaporation, some fine powder like crystals re-form in the glass.

I find its use most valuable in cases requiring a special diagnosis, as it gives more rapid dilatation and the effects pass off more quickly than with any other preparation I ever used, and without the supervention of secondary symptoms.

The patient complains of a slight burning sensation in the conjunctiva when the aqueous solution is instilled into the eye, but that passes off in a very short time, and, independent of some hyperæmia, the conjunctiva and other coats of the eye do not suffer in any way; and I have been more than pleased with the slight amount of irritation produced, and the comfort I have received in examining the internal structures of the eye, even in medical cases that required careful diagnosis and special examination away from one's office. Mydrin is a combination of the alkaloids ephedrine and homatropine, which combine very nicely together, and form a white powder which easily dissolves in water. Dr. Cattaneo introduced it in 1895.

ADENOID VEGETATIONS IN THE NASO-PHARYNX.

H. F. SCHANTZ, A.M., M.D., READING.

The intimate relation existing between nasal and aural disease is frequently noted. The anatomical arrangement of the tissues of the post-nasal region is such as to favor a close relation. The Eustachian tube connects the post-nasal space with the middle ear, and whatever affects the one region also affects the other. A congestion of the tissue in the post-nasal space is often associated with dulness of hearing and pain in the ears.

In the upper portion of the post-nasal space, above the arch of the pharynx and entirely out of sight, except with the aid of the naso-pharyngeal mirror, we frequently find a collection of

tumor-like tissue termed *adenoid vegetations*. These are a true hypertrophy of the normal lymphoid tissue in the naso-pharynx, and vary from a slight thickening to a mass that entirely blocks the breathing space, and renders mouth-breathing a necessity. Enlargement of the tonsils is often associated, and in many a case the tonsils are removed while the real difficulty lies in the post-nasal space, and the removal of the tonsil is a failure so far as the relief of the obstruction to respiration is concerned. On the other hand, the removal of the adenoid tissue leads to decrease in the size of the enlarged tonsils.

Obstruction to respiration may be caused by numerous conditions; hypertrophic rhinitis, polypi, and septal deviations may cause it, but in children far more cases are due to adenoids than to any other cause. The function of the nose of cleansing, moistening, and of warming the inspired air is interfered with. A babe cannot suckle and breathe at the same time, and malnutrition results.

Again, in consequence of the obstruction mouth-breathing is necessary, and dry throat, a tendency to catch cold, cough, croupous laryngitis, bronchitis and pneumonia may result.

The function of hearing is interfered with, not necessarily from pressure directly on the Eustachian tubes and thus blocking them, but the nasal respiration is interfered with, and the air in the vault of the pharynx is rarefied and the atmospheric pressure in the Eustachian tubes is diminished. The drum-head then becomes contracted and forced in, ankylosis of the ossicles and atrophy may result, and deafness follow. Hyperæmia of the vault extends through the Eustachian tubes and interferes with the return circulation of the blood, and when any congestion occurs to block the vault inflammation of the middle ear results, and we have a stubborn condition of otorrhœa on hand. Many a case of otitis media is treated for a time and apparently cured, only to be re-established the next time "the child takes a cold," as the laity express it.

If this condition of adenoids were more generally recognized we would not have so many cases of recurring otitis media to treat. Woakes states that not more than 5 per cent. of cases with adenoids escape the ear complications.

The swollen glands pour forth their muco-purulent discharge and it passes down the wall of the pharynx, giving rise to cough. Then, too, the child has not learned to expectorate, and the secretion is swallowed and the stomach is deranged. The voice has a thick, dead quality similar to that associated with a "cold in the head." In adults the presence of adenoids, which is less frequent owing to the tendency towards their being absorbed in adult life, affects the voice, and clear tones are absent.

Other conditions attributable to the presence of adenoids are malformations of the dental arch, due to the continued mouth-breathing, asthma, stammering, and incontinence of urine.

The diagnosis is usually easy. The symptoms clearly indicate the condition, for the existence of the adenoids is suggested by the mouth-breather's face, *i.e.*, thick, flattened nose, stupid expression, parted lips. Digital examination of the post-nasal space will reveal the tumor-like masses.

Treatment.—Local applications and internal medication have their advocates, but in most cases relief is secured only in surgical interference. The method of procedure is: Anæsthetize the patient; lay him on his back, with the head resting on the edge of the table; introduce the mouth-gag; place the index finger in the post-nasal space; slide the curette or cutting forceps along the finger into the post-nasal space, thus avoiding injury to the soft palate. By carefully curetting the space all the tissue can be removed. Hæmorrhage is often free, but by turning the patient on his side and allowing the blood to trickle forward through the nose and mouth the danger is obviated. In severe cases tamponing of the post-nasal space is necessary. Careful and thorough cleansing of the nose and throat for several days after the operation is generally followed by disappearance of the associated nasal and aural symptoms.

Give the patient all the fresh air possible and plenty of nourishing food. Among the remedies to be considered in these cases are: The combinations of *calcarea*, *iodine*, *mercury*, and the deep-acting tissue remedies.

From my case-records I have selected the following case: Louis L., a lad of nine years, had been annoyed by frequent

attacks of "sore throat and ear-ache." The acute attacks usually terminated with a discharge from the ears. He came under my care a few years ago, and I diagnosed the case one of adenoids. Having the lad anæsthetized, I carefully curetted the space with a Gottstein curette, bringing away quite a number of the vegetations. Recovery after the operation was rapid and uneventful, and to-day he is free from any tonsillary or aural symptoms, and has gained in weight and health since his breathing space was freed from the obstructing masses.

DISCUSSION.

Dr. Park Lewis (Buffalo, N. Y.): I have nothing to add to this very interesting paper which the doctor has just read, save two suggestions that have come to me while he was reading it. The value of the removal of adenoids, in cases in which they exist, I think is unquestioned by any who have followed those cases and watched the remarkable improvement that follows—the open nasal passages—the opportunity being given to the child to breathe more freely; but the doctor attributes the high palatal arch to the existence of the adenoids. I think, on the contrary, that adenoids are more apt to come because of the deformity of the mouth. I have noticed in those cases that the existence of this deformed mouth is almost invariable. Dr. Woods Hutchinson, of the University of Buffalo, in one of his papers, has called attention to the fact that this lack of proper development is not an infrequent accompaniment of adenoids, and is, presumably, the partial cause, at least. An allopathic authority in Buffalo has called attention to another fact which I think we, as homœopaths, might with advantage consider, and that is, that the removal of these growths does not necessarily give complete healing. He attributes the existence of adenoids not only to the deformity of mouth, but to a constitutional predisposition, and advocates, after their removal, constitutional treatment. He says it almost invariably answers, and I have found in many cases that it is the requirement. There are conditions accompanying adenoids which will make some of our more deeply active constitutional remedies of great value.

PTOSIS—ITS SURGICAL TREATMENT.

G. W. STEWART, M.D., PHILADELPHIA.

In the category of operations devised for the relief of ocular errors and disturbances, none, perhaps, are so attended with absence of uniformity in result as those proposed for the cure of ptosis, with its usually associated unbalanced condition of the recti muscles. Every ophthalmic surgeon is more or less familiar with the class of cases that, having previously undergone some operation to restore the palpebral function, present themselves for treatment for the resulting deformity, and, in conjunction with this objectionable feature, with the vision threatened as a result of undue corneal exposure. The reasons are obvious, as, both in variety and efficiency, the operative measures proposed leave little more to be desired. These cases should either not have been operated at all, or the method adopted has been unwisely selected. So simple does it appear, not only to the general practitioner, but to the layman as well, that to restore a drooping lid all that is necessary is merely to remove an elliptical strip of skin and the eye will be opened that, without considering the probability of a second operation to permit it to close again, the attempt is made, and ofttimes irreparable damage is done. Again, notwithstanding the utmost skill in the performance, operations resulting in unfortunate complications have been done upon cases in which careful inquiry and sound judgment would seemingly have precluded any interference whatever.

While the objective appearance of an eye in ptosis, from whatever cause, may, in the majority of cases, present uniform characteristics, it must ever be remembered that underlying the phenomenon there may be one or more of a variety of causes likely to produce it, and that these causes must be regarded as the influential factors in determining upon any method of surgical interference for relief.

By far the larger number of cases who seek relief from this

deformity are those of long standing, and mainly for cosmetic reasons; others, again, of more recent origin, apply for correction of the resulting visual disturbance; while less frequently it happens that a case may present itself in which the visual acuity in the unaffected eye is far below that of the one occluded. Operative consideration ranges, therefore, between the extremes of imperative necessity and the desire for improvement in personal appearance.

In general, ptosis may be divided into two varieties—one in which there exists a positive hypertrophy of the connective tissue, and one in which there is a congenital absence or imperfect development of the levator palpebræ muscle, or a paralysis due to focal or peripheral lesions. It may include one or both eyes, it may be partial or complete, and may be associated with defect of the superior rectus, or all of the muscles actuated by the motor oculi nerve. In congenital cases, usually, though not always, both eyes are symmetrically affected—in some instances, doubtless, of nuclear origin; while in others the muscles are improperly developed. It has been observed in three generations of a family. The vices of conformation in other organs of the body may likewise attend the congenital variety—squint, epileptiform convulsions, contractions of the muscles, etc. Cases are reported in which partial elevation of the lid could only be accomplished by the synchronous contraction of a neighboring muscle—as, for instance, lateral or vertical movements of the jaw, involving the supposition of an abnormal distribution of the fibres of the fifth nerve, with a lack of development in that portion of the nucleus of the third nerve which sends its fibres to the levator palpebræ muscle. Ptosis in a moderate degree may be a symptom of paresis or section of the cervical sympathetic on the corresponding side, and, as a symptom, it is not infrequently encountered in multiple cerebro-spinal sclerosis. Tumors of the orbit, abscess of the temporosphenoidal lobe, trachoma of the lids, syphilis, accumulations of fat in the connective tissue—ptosis lipomatosa—redundancy of the skin, number among their symptoms partial or complete impairment of the palpebral function. Injuries of the head, blows upon the face and orbit, compression by the

forceps at birth, irritation of the conjunctiva and margin of the lids, produced by smoke and dust, exposure to draughts of cold air, may each of them be the temporary cause of ptosis of long or short duration. Indeed, so many and varied are the conditions that operate directly or indirectly to produce a drooping of the lid, and so varied are the measures proposed for its relief, that to attempt an operation without a thorough comprehension of the factors underlying the manifestation is to frequently commit an error that forever afterwards, so to speak, stares you in the face. It may safely be said, however, that in the entire realm of pathology no group of affections offer more recondite problems, or require more skill and knowledge in diagnosis, than those pertaining to the ætiology and location of the lesions causing paralysis of the various ocular muscles. To determine whether the lesion is direct or indirect, focal or peripheral, permanent or temporary, etc., and the method of treatment most advisable, *i.e.*, therapeutic or operative, is often impossible under the present conditions of our knowledge.

The principal considerations, therefore, obviously necessary before hastily concluding to operate upon a drooping lid are, first, is the affection temporary or permanent; and, second, the condition of the remaining ocular muscles. In congenital cases seen within the first few weeks or months of life it will be difficult to determine with any precision the probable duration of the affection, particularly if the ptosis be the only objective symptom manifest, and there exist no apparent subjective symptoms that point to its nuclear origin. In later years, the symptom still persisting, despite the employment of therapeutic measures directed against some one or more conditions acting as a possible indirect cause, its permanency may be reasonably concluded. Cases seen early in infancy may be due to a transient paralysis, the result of pressure, or, as not infrequently happens, an infiltration of the lids from a deep-seated abscess or fluid in the posterior region of the orbit. These cases may or may not require surgical interference to remove the cause, as they sometimes recover unaided, through natural means. Broadly speaking, congenital cases of long duration—and recent cases, whether direct or indirect in origin, if they can with

reasonable certainty be diagnosed as *permanent*—may be assumed as amenable to surgical measures for relief.

As the oculomotor nerve is mainly concerned in the function of the lids, and as it likewise supplies all the extrinsic muscles of the globe with the exception of the superior oblique and external rectus, it frequently transpires that any or all of these muscles may be included in the paralysis impairing the function of the lid. Such being the case, it obviously follows that the correction of these defects must be considered in connection with the operation intended for the relief of the ptosis. To elevate a lid and disclose the globe permanently rotated downward and outward is not a flattering improvement to personal appearance, nor is it desirable to subject the cornea to the risks of exposure entailed by its distorted position with a lid that, after operation, may but imperfectly protect it. Unless a previous and successful attempt has been made to correct the ocular deformity, or unless a question of actual improvement in the vision be involved, the operation for ptosis should be deferred, if not absolutely refused. When, on the contrary, but single muscles are affected and the excursion of the eyeball is not limited to a minimum, the cornea is not necessarily risked by exposure and operation may be contemplated.

If convergence be present in cases of long-standing ptosis, the sudden and enforced elevation of the lid will inevitably result in annoying diplopia, if amblyopia is not well advanced. Under these circumstances, a tenotomy of the contracted muscles should first be performed, and, with the lid temporarily elevated by the use of plaster or a crutch attached to the spectacle-frame, the diplopia should be corrected by prisms or spheric lenses, after which the restoration of the lid may be effected. It may be advanced, as a general rule, that wherever, in connection with ptosis, defects occur in the ocular muscles, these defects should first receive the attention of the surgeon before considering the operation for ptosis. If this rule be not observed, the principal objects aimed at in operating, *i.e.*, correction of deformity or improvement in vision, may be signally disappointing, if not entire failures, and may result in conditions infinitely more disastrous than the original trouble.

The kind of operation to be performed depends very naturally upon the cause and extent of the condition present. If the case be one of ptosis lipomatosa, in which excessive amounts of fat are deposited in the connective tissue, the removal of a sufficient quantity through a simple incision, to allow free action of the levator muscle, will usually be all that is necessary. If redundancy of the skin be present—a redundancy that sometimes overlaps the lid and extends a considerable distance beyond its ciliary margin, the removal of an elliptical or crescentic strip of skin of sufficient width to include all of the superabundant tissue will correct the deformity.

When the case is one of paralysis of the levator palpebrarum, neither of the operations above described will serve the desired object, which, in this instance, is the endeavor to make the occipitofrontalis muscle perform the service of the disabled levator. The older method, suggested by Von Graefe, of removing a few fibres of the orbicularis which antagonizes the levator, thus weakening its action, together with the subcutaneous shortening of the lid, has been abandoned as undesirable and ineffective. Pagenstecher's operation, modified by Wecker, gives excellent results in the hands of many operators. After the removal of a crescentic strip of integument overlying the muscular fibres, sutures are entered subcutaneously near the free border of the lid, carried beyond the incision, to emerge above the eyebrow. Two such sutures are introduced, tied in a bow-knot over a roll of plaster, and tightened at intervals as they become slack. They are allowed to remain *in situ* until evidence of suppuration develops, or until they cut through the tissues. The cicatrices thus formed unite the lower portion of the lid with the occipitofrontalis muscle. In a case of ophthalmoplegia externa, operated on by the writer, in which not only the muscle of the lid but all the extrinsic muscles of the eye were involved excepting the external rectus, this method was employed with the happiest results. The history is as follows:

Miss T., aged 45, when first seen presented an appearance as shown in Fig. 1, the left eye almost completely closed, the lid drooping to its fullest extent. By a strong contraction of the

occipitofrontalis muscle she was able to elevate the lid a very trifling degree. Persistent effort in this direction had deeply furrowed the integument of the forehead, and arched the eyebrow on this side in a very noticeable manner; right eyelid normal and under perfect control; extrinsic muscles of left eye completely paralyzed, allowing the eye to rotate downward and outward; motion, which was limited to a few lines in a lateral direction, was controlled entirely by the movement of the right eye. Vision being considerably better in the left than in the right eye, she was able to fix with the left in seeing only after complete abduction of the right. As this effort to see distinctly necessitated a forcible elevation of the brow and forehead, turning the right eye into the external canthus, and tilting the head backward, she preferred using the right, with its diminished vision, to the uncomfortable posture required in seeing with the left. Vision in right eye, $\frac{10}{100}$; left eye, $\frac{20}{90}$—an extremely unusual condition. Family history good. No recollection of disease during infancy, nor of the period at which the trouble began. Ophthalmoscopic appearances negative. She had been refused operation by several oculists in early life, with one exception, a physician desiring to remove "a little piece of skin from the eyelid." At the present time she seeks relief for the disturbance in vision her abnormality causes. Admitted to St. Luke's Hospital October 28, 1896. Attention first directed to recti muscles of affected eye. Under strict antiseptic precautions the external rectus was divided through a small conjunctival incision. A large elliptical strip of conjunctiva was then removed from over the insertion of the internal rectus. This muscle, being divided, was freely dissected backward as far as possible, and all that portion in convenient reach excised. The divided ends were now brought together by sutures, introduced through the muscle and conjunctiva, those at the insertion end being entered deeply in the sclera to the corneal margin. Eye thoroughly cleansed with salt solution and carefully bandaged; sutures removed on fifth day; wounds healing without interruption. As the advance gained was very encouraging, though as yet short of being complete, a similar operation was performed one week later on the right

Fig. 1.

Fig. 2.

eye, with the result of bringing both eyes directly to the median line. Ten days later Pagenstecher's modified operation was done on the lid, the sutures remaining *in situ* fifteen days before cutting their way out. When discharged she presented the appearance shown in Fig. 2—eyelid under perfect control; eyes in median line, and acting in unison in the lateral plane. Concave spherical lenses gave vision $\frac{20}{50}$ in left eye. Right eye, vision unimproved. Notwithstanding the remaining downward deflection in one eye, her personal appearance is in marked contrast to what it was prior to operation.

Another operation, of equal value, is that known as Panna's, which consists in stitching a tongue-shaped flap of integument from the lid to the occipitofrontalis muscle.

Numerous other operations have been devised, all having their own especial indications.

The mere fact that so many operations have been proposed for the relief of this condition indubitably indicates that no one single operation is suitable in all cases, and before undertaking any of them serious deliberation should be indulged, that the right one be selected. The dangers to the eye are many and great; over-correction or under-correction are comparatively common consequences. Under-corrected, the lid may still droop, seriously interfering with the pupillary space; whereas, over-corrected, the patient may be unable to close the eye at all, and the cornea be exposed to external influences which will inevitably result in ulceration, and possibly complete destruction of the eyeball. Cases amenable to operation should not be undertaken without there exists some reasonable necessity, the cosmetic one being entitled, of course, to consideration. Emphasis is made here for the reason that within a comparatively short space of time several cases have come under the writer's observation, operated elsewhere, and attended with distinctly serious consequences. One, a child two years old, from a neighboring State, with ectropion, the result of an ill-advised and badly-performed operation for ptosis; and two others, a young woman and a man—the first with extensive corneal opacities, the other suffering from an active conjunctival irritation, caused by inability to completely close the lid.

These cases offer tangible illustration of the dangers involved, and accentuate the necessity for deliberate care in diagnosis, and in the selection of measures for relief.

DIAGNOSIS AND TREATMENT.

HORACE B. WARE, M.D., SCRANTON.

I PRESUME a number here present are weary of the subject I have taken for my paper, for who cannot make a diagnosis? Davy Crockett's mother gave that advice to the boy when leaving home to fight the world—that advice which all men should revere, coming from a dear old lady—"First know you are right, and then go ahead." This advice seems most eminently the advice which we doctors, and especially specialists, should follow—the human anatomy is so subject to external influences and forces, and one portion of the body so reliant and sympathetic with another. A seemingly serious complication may be due to some remote origin which may be readily removed by some very simple treatment, if the cause has been attacked. I remember a diagnosis I made, in my early practice, of a serious ovarian prolapsus, which I said some gynæcologist must operate upon; and the patient, not having the confidence in me that I thought she should have had, owing to my great knowledge, went to her family doctor, as she afterwards told me. He made an examination and gave her a large dose of castor oil, and the diagnosed fallen ovaries passed her rectum with no further trouble. But my bureau is on ophthalmology and rhinology, etc. And there are only too many false diagnoses made here, and yet probably more relief comes to the chronic patient from removal of causes originating within the scope of this bureau than of any of the others, not excepting the surgical. So much has been written, lately, on ethmoiditis that I almost fear to mention the word. Please do not sigh, for I do not propose to go much into that intricate structure of the ethmoid cells, nerves, etc., for you, no doubt, know all about it. But

what I do wish is to call special consideration to what an important factor the ethmoid is in the human anatomy, and what power it has over the control of the general system, mental, moral and physical. I may say, without occasioning dispute, that there is probably no part of the human anatomy that has been so much abused and grossly treated, except, possibly, that little appendage which Darwin brings to us as proof that our forefathers ate grass; and he is probably right. I say there is no other portion of our anatomy so abused as the upper air-passages. All sorts of irritating sprays, powders and ointments are poked into these most delicate cavities, which may give momentary relief, but which the poor patient must suffer for in the reaction. This sort of thing is kept up indefinitely, until both physician and patient become discouraged, and the so-called catarrh cannot be cured. And so long as the case is treated for the symptoms alone, without first removing the surgical cause, the same discouragements will always be met. The patient may get into the hands of a *doctor who has a cautery apparatus*, and, as the common expression goes, has his nose burned out, or a bone removed; and woe be unto that patient if the doctor who handles that cautery or saw has not a thorough knowledge of the dangers of the wrong application of these appliances, or has not a thorough knowledge of the right use of these agents of treatment, and does not know the points which should be reduced and those which must be let alone by the cautery, saw, or drill, in the treatment of these affections. It is absurd to suppose that a mere spraying of the nose can remove an overgrowth of bone or bent septum, etc. (which may be the cause of serious trouble), for the spraying of the nose for existing post-nasal polypoids or the hypergrowths of the posterior ends of the turbinateds (which an inexperienced observer might overlook) would be an absurdity; and all such treatment brings only odium on all who practice medicine, and, of course, worst of all on the specialist. Hahnemann first laid down the law to us, "First relieve the patient, and then cure him." Surgically, without the aid of the indicated remedy, and especially without the knowledge of any pre-existing disease, which may have prior claims on the patient, the operator

would be much handicapped. Bosworth speaks of a case of acute melancholia, of a number of years' standing, on whom it seems all of the operations of the day had been performed by skilled operators, and all kinds and classes of physicians had exerted their powers on various portions of his body, hoping thus to remove the cause, with the only result of forcing the poor individual nearer to the grave, and who prayed that the next operation might end his life, and yet was too manly to end his own existence. This was the condition when he presented himself to Bosworth. On examination he found one nostril nearly filled by soft hypertrophies and deflected septum, and the other nostril, while fairly free, with bony growths. These were all removed within a week, and three days following the last operation he was able to attend to business, which he had been unable to follow for the previous ten years. The cause of this man's trouble was discovered at last and removed, and the man was well.

Specialists are often accused of seeing the cause of suffering only through their specialty eyes, and I fear, sometimes, this is only too true; but I cannot understand how any intelligent man, who has a fair understanding of the wonderful sympathetic system, will put himself on record by making a *positive* diagnosis without first obtaining as thorough a knowledge as possible of the patient's past history, and determining whether any past ailment can in any way have a bearing on the present symptoms. The number of severe headaches which are cured by the removal of some remote cause are only too well known to all of you. The nasal nerve is a branch of the ophthalmic, with its various branches—the infratrochlear, a branch of the nasal, supplying the conjunctiva, lachrymal sac and lids. Thus the eyes and nose are brought into close relationship. This holds good with the vascular supply. The vasomotor system producing certain changes in a common arterial origin, the ramifications will necessarily be affected similarly. A chronic headache may be caused by an ocular strain, or over-congested turbinateds and septum, or exostosic growths, etc. If the cause is in the eye, the headache is generally worse toward night, and better in the morning after a night's rest, while the reverse

is the rule when due to a nasal disorder, the headache and depression coming on in the morning on arising, and wearing away toward noon and better at night. Of course both causes may exist at the same time. In such case I believe in attacking the nose first, unless overly-convinced, from the symptoms and examination, that the eye is the greater cause—at the same time considering the general history. A spray of cocaine may frequently determine our diagnosis by relieving the patient. I have removed the glasses from a number of patients who had worn them for years, and yet the cause that led them to wear the glasses still existed, and was removed only by the removal of a nasal obstruction. I have also cured several cases of chronic otorrhœa, of years' standing, which resisted all other treatment, by treating the nose, with no applications whatsoever to the ear; also, certain forms of muscular rheumatism (so diagnosed), more especially in the lumbar region and thighs and large joints; also, repeated attacks of aphonia and hoarseness from chronic laryngitis. Also, the fatigue and hoarseness of singers and public speakers are cured by treating the nasal air passages, as also mental depression in the morning, melancholia, difficulty to collect one's thoughts, chronic asthma, and of course hay fever and certain cardiac affections. Epilepsy, one case of three years' standing, I cured by removing a nasal obstruction. And I might enumerate a vast number of other affections in remote parts of the body which were markedly benefited or cured when the nasal passages were freed. Bosworth's case explains some of the cases which come before the specialist, and we can all enumerate similar cases. Yet I doubt if any have gone through so much treatment and so many operations as did his patient. I have found, in the great majority of early bald-headedness (so called) where it has been my privilege to make nasal examinations, that there always existed a marked stenosis of that organ. That this may be a cause of the early departure of that which our babes so enjoy to fondle can be demonstrated by placing the palm of the hand on the top of the head during an acute attack of rhinitis, where you will find a spot about the size of the end of an ordinary tumbler, which can readily be outlined by the difference in degree of

temperature, this spot being much higher in temperature. This, in a chronic form, may affect the hair follicles. I have no authority for this statement, only my own observation, and I think you bald-heads have now a great opportunity to investigate and experiment, so that we who have our hair may be able to keep it.

ACUTE FOLLICULAR TONSILLITIS.

H. S. WEAVER, M.D., PHILADELPHIA.

ACUTE follicular tonsillitis is a disease which should interest every physician, whether he be a specialist or a general practitioner, because of its frequency in our climate, and because, in the severer cases, it resembles so closely the dreaded disease, diphtheria, necessitating the most careful differential diagnosis.

At times it is impossible to say "This is simply a case of follicular tonsillitis" or "This is a mild case of diphtheria" unless the exudate be examined microscopically, to find whether the diphtheritic bacillus be present.

Tonsillitis, according to Burnett, is an acute inflammation of the tonsil or tonsils, either superficial or extending into the parenchyma of the gland, affecting or not the lacunæ, and terminating in resolution, abscess, or chronic enlargement of the gland.

The tonsils are two glands about the size and shape of a chestnut, but varying much in size, shape, and color, even when in a normal condition. They are situated on either side of the fauces between the anterior and posterior half arches. "Each gland is imbedded in faucial peritonsillar tissue, and is enclosed in a capsule of connective tissue."

The tonsils, especially when hypertrophied or diseased, have numerous crypts which open on the surface, giving it, instead of a smooth surface, a surface with depressions or indentations or pockets. These pockets are frequently filled with a yellowish substance, composed of fat-molecules, loosened pavement epithelial cells, lymph corpuscles and cholesterine crystals,

which, if allowed to remain in these crypts or lacunæ any length of time, decompose, becoming very offensive and irritating, thus acting as the chief predisposing cause of an attack of acute follicular tonsillitis.

The tonsil secretes a clear fluid which helps to lubricate the food, aiding it in its passage through the faucial canal, pharynx and œsophagus. The function of the tonsil, while it is said to aid in the formation of the white blood corpuscles, is still questionable.

There are three distinct varieties of tonsillitis, according to the extent and character of the inflammation.

1. Erythematous tonsillitis,
2. Acute follicular or croupous tonsillitis,
3. Parenchymatous tonsillitis—

Erythematous tonsillitis involving simply the superficial structure of the gland, acute follicular tonsillitis involving the follicles or lacunæ, parenchymatous tonsillitis involving the whole structure of the gland.

Acute follicular tonsillitis is the one I wish to discuss, the causes of which may be classed as predisposing and exciting.

The predisposing causes are age, sex, heredity, previous attacks, climate, and rheumatic diathesis.

Age.—It is a disease chiefly found in the young, due to the less resisting power of the tonsils to the exciting causes. It is mostly found between the ages of fifteen to thirty, rarely found after the age of forty, due to the atrophic changes which the tonsils undergo at that time.

Sex.—This disease is found more frequently among males than females in the proportion of three to two, due to the fact that males are more exposed to the exciting causes.

Heredity.—Parents with hypertrophied, ragged, follicular tonsils frequently—I say frequently, not always—give birth to children with hypertrophied tonsils, thus predisposing them to these tonsillar troubles.

Previous Attacks.—Nearly every attack of tonsillitis lowers the vitality of the tonsils, leaving them inflamed and somewhat hypertrophied, due to improper resolution, thus preparing the tonsil with suitable soil for another attack upon the slightest provocation.

Climate.—Follicular tonsillitis is a disease common to all climates, but most frequently found where the atmospheric changes are sudden and well-marked, as in this varied climate of ours, where specimens of each and all of the four seasons are sometimes given us in the short period of twenty-four hours.

Rheumatic Diathesis.—Inquiry into the previous history of patients will show that a very large percentage was subject to attacks of rheumatism, frequently an attack of tonsillitis ushering in an attack of rheumatism, or both coming on simultaneously, thus giving rise to the cardiac inflammation at times accompanying the attack.

General Debility.—With *all* the preceding predisposing causes present, the general health may be sufficiently good to resist any exciting cause; but should the general health be at a low ebb, with *any* or *all* of these predisposing causes present, the slightest *exciting* cause will bring on an attack.

Exciting Causes.—The chief exciting causes of acute follicular tonsillitis are exposure to cold and damp, wet feet, working in a damp, cold atmosphere, sitting in a draught when overheated, etc.

The tonsillar secretions which fill the lacunæ so inflame the tonsils as to render them more susceptible to a chill than any other portion of the system. For this reason inflammation follows, soon developing into an attack of tonsillitis.

When both tonsils are affected simultaneously, it shows almost conclusively that its origin is from septic infection, mostly due to inhalation of sewer gas, or from contaminated drinking-water. Thus several members of a family are liable to become affected at the same time.

Traumatically it can be caused by the inhalation of irritating gases, foreign bodies becoming impacted in the tonsil, such as fish-bones, small pieces of toothpick, tooth-brush bristles, swallowing of acids or very hot drinks, etc. The exanthemata, such as scarlet fever and measles, usually have, secondarily, attacks of tonsillitis, more or less severe, depending upon the condition of the tonsils before the onset of the disease.

Symptoms.—Acute follicular tonsillitis is a systemic disturb-

ance. One may have a chill, or simply a marked chilly sensation, with a dryness in the pharynx as the first symptom of an attack; immediately following this a febrile disturbance, with headache, backache, severe pain in the tonsillar region, general malaise, a rapid rise in the temperature, reaching 102° to 105° by the end of the first or second day; pulse 100 to 120, full and bounding. Febrile symptoms are always more marked in children and young adults, especially when suffering from the first attack.

The eruption on the tonsil makes its appearance in from twelve to twenty-four hours after the onset of the febrile symptoms. With the appearance of the local manifestation on the tonsil or tonsils there is considerable sharp, lancinating pain, decidedly worse during deglutition, at times shooting up toward the ears. Deglutition is very difficult, ofttimes almost impossible when both tonsils are affected, causing food and drink to regurgitate through the nostrils, frequently entering the larynx and causing severe strangling. The disease usually runs its course in from two to five days. The prostration is very marked, out of all proportion to the length of time of the sickness.

Objective Symptoms.—The tonsils are enlarged, inflamed and covered with numerous white or yellowish-white patches, which surround and fill the numerous lacunæ. These patches may coalesce and form a membrane covering large portions of the tonsils and surrounding tissue, resembling closely the membrane found in diphtheria; but when the membrane is removed it does not leave a raw, bleeding surface, as is the case in diphtheria. This exudation clears off in two or three days, greatly relieving the pain while swallowing. The tongue is heavily coated, thick and flabby, showing the imprints of the teeth; the pharynx and soft palate also are usually congested.

Treatment.—This I wish to separate into treatment of the acute attack and treatment of the tonsils during the interval of attacks, so as to prevent a recurrence. There is always considerable disturbance of the general system, so it is best to have as nearly absolute rest as possible for from twenty-four to forty-eight hours. The patient should be placed in a room, isolated

to some extent from the family; especially is this necessary should there be children in the house, because of the less resisting power of children against these tonsillar diseases.

I believe the disease is infectious, and that children may contract the most violent form of tonsillitis from one who seemingly has a very light attack. I think it the duty of every physician to caution parents about this, and to point out the danger to which their children are exposed in having them mingle with others suffering from this disease. How often have children developed a malignant diphtheria after being permitted to remain in the room with older members of the family who were suffering simply from a mild follicular tonsillitis.

I do not believe the diphtheritic infection was received directly from the case of follicular tonsillitis, but I do believe a micro-organism poison was absorbed which inflamed the tonsils, preparing them with a soil suitable for the reception of the diphtheritic bacillus.

Therapeutics.—This is a disease which runs a short course, consequently few remedies are needed.

Apis mel. is a very valuable remedy, especially useful when the tonsils are bright red, swollen, and studded with deep, dirty-grayish ulcers; soft palate, red and œdematous, at times covered with vesicular eruption; vesicles filled with a clear fluid; stinging pains in soft palate and tonsils, at times shooting into the ears; breathing difficult in some cases, due to the œdema of soft palate and glottis.

Gelsemium is a remedy useful early in the attack, when there are chilly creeps along the spine, backache, aching of all the bones in the body, marked prostration; heavily-coated tongue, which is large and flabby, showing the imprints of the teeth; headache, fever alternating with chills; tonsils dry, red, and inflamed, with considerable burning. It is best given alone when the patient is seen early in the attack, and, when seen later, alternately with *merc. iod. rub.*

Ignatia, when the patches on the tonsil are superficial and of a grayish-white color, stitching pains during the interval of swallowing, sensation of a lump in the throat, swelling of the cervical glands. It is especially valua-

ble when there are marked diphtheritic symptoms showing a probable mixed infection.

Belladonna is useful when the tonsils are bright red, worse right, constant desire to swallow, great dryness of the tonsils and fauces, throbbing pain in the tonsils, throbbing carotids, dry skin, dry lips, and usually a congestive headache.

Guaiacum is useful in those cases having the belladonna objective symptoms without the belladonna constitutional symptoms.

Merc. iod. rub. is a valuable remedy for repeated attacks which start in the left tonsil, the cervical glands swollen and painful, and when the patient expectorates quantities of tough, stringy phlegm, etc.

Lachesis when the left tonsil is first affected and the mucous membrane and tonsils are swollen and livid-looking; constricted sensation around the neck, worse from slightest pressure, and worse after sleep, fetid breath and general debility.

Baryta carb. is especially indicated when there is great liability to tonsillitis after each cold, in chronic hypertrophy of the tonsils. It is a good remedy to continue using after the acute attacks, frequently lessening the susceptibility of the tonsils.

Phytolacca, aconite, rhus tox., hepar sulph., capsicum, and many other remedies are frequently indicated, but must be prescribed upon the totality of the symptoms present.

Local Treatment.—Sprays and gargles act as cleansing and soothing agents, which lessen the inflammation and greatly relieve pain during deglutition.

Peroxide of hydrogen, pure or diluted with water, is one frequently used, but with me has not given such prompt and satisfactory relief as a spray of tannic acid and water, fifteen grains to the ounce, followed by some oily spray.

Gargles, when patients are instructed as to their use, can be used with great relief. Hot salt water is the most frequently used, and I have seen it accomplish excellent results, so relieving the sufferer, with whom deglutition was impossible, that he afterwards ate with some degree of comfort. Hot milk, plain or combined with the tincture of guaiacum, one drachm to the ounce, acts nicely, having a medicinal action on the tonsils, as well as soothing and cleansing properties. Glycerine one

part, alcohol two parts, and water three parts is one I frequently recommend with good results.

Permanganate of potash, one grain of the crystals dissolved in a glass of water, is especially valuable in cases resembling diphtheria where considerable exudation is present, with an offensive odor. It cleanses the tonsils and deodorizes the exudate, leaving the tonsils in good condition. It can be given internally at the same time. The greatest drawback to its general use is its very disagreeable taste.

Local applications directly to the surface of the tonsils will nearly always relieve the pain. Cleanse the surface by mopping, and then touch with tannic acid and glycerine, ten grains to the ounce. This will lessen the congestion and relieve the sharp pain.

After the acute stage has passed the tonsils are usually found to be hypertrophied with engorged lacunæ. These lacunæ are filled with a white, cheesy substance, which keeps the tonsils in a low state of inflammation, furnishing them with a fertile soil for an acute inflammatory condition, to be precipitated by the slightest exciting cause. Open these lacunæ, rid them of these cheesy particles, and in the great majority of cases a recurrence of the attack will be prevented. This can be done, when the tonsils are not too large, by means of a small probe covered at the end with cotton so as to protect it, or by an instrument, such as the curette found in the "Gross case," using the hook end. Inserting the instrument in one of these pockets, it can be readily passed through the thin partition, separating the two; then draw toward the median line, tearing the little tissue between the two pockets, thus having one large pocket, or lacuna, in place of two. Repeat this with several other pockets, the number torn at each sitting depending upon the nervous state of the patient and the condition of the tonsil. This may seem like heroic treatment, but it causes comparatively little pain, and little or no irritation afterwards. Do this once a week for several weeks, and you will be surprised how much smaller the tonsils become, and how much smoother the surfaces.

Where the tonsils are quite large, the latest and best treat-

ment is with the galvano-cautery knife. Insert the blade into the pocket, turn on the current, and destroy the pocket and some of the surrounding tissue. This is not painful, and, if carefully done, little or no reaction follows. Two or three pockets can be treated in this way at one sitting, but should not be repeated inside of a week or ten days. This not only rids the tonsils of these lacunæ, but causes them to atrophy to such an extent that frequently a few applications will be all that is necessary to reduce a very large tonsil to its normal size. This treatment is especially applicable when the tonsils are very hard, and in adults when a tonsilotomy is contraindicated because of the fear of hæmorrhage.

In children, where there is a marked hypertrophy of the tonsil, giving rise to mouth breathing, consequently a naso-pharyngeal catarrh, a nasal or thick tone to the voice, and a whole train of nervous symptoms, the best plan, in my judgment, is a tonsilotomy, removing a sufficient amount of the tonsil to rid it of the pockets and all the ragged edges. This I have never seen fail to improve the voice and throat and the nervous condition of the patient.

In conclusion, I wish to urge a careful examination of all cases subject to tonsillar troubles, not discharging the patient when he has recovered from the acute attack, but examine carefully for the underlying cause and treat accordingly, and you will reap a rich reward in the gratitude of the patient.

EXAMINATION OF THE EYE.

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The importance of a thorough and systematic examination not only of the eye itself, but of co-existent general conditions, in order to determine the underlying states and to make a correct diagnosis, cannot be over-estimated. Every patient should be examined systematically, for both an accurate understanding of the case and for the preservation of careful records for subse-

quent use. The necessity of a thorough general examination varies with different cases. There is, of course, not the same necessity for an examination into the family and personal history, occupation, habits, condition of the various organs, such as heart, kidneys, nervous system, etc., in cases of simple conjunctivitis, as there is in the more grave ocular diseases. Furthermore, as the method of general examination or "taking the case" varies with different physicians, it will not be entered into here.

In the examination of the eye itself we cannot emphasize too strongly the value of systematic methods. Many times has the ophthalmoscope revealed a retinitis or an optic neuritis in cases with a normal acuteness of vision, and no symptoms indicative of an intraocular disease. The records of a thorough examination to-day may be of the utmost value in the prognosis of some condition that may arise five, ten or twenty years later. Full records of each passing condition will often prove of great service in the treatment of subsequent similar conditions, and much of one's success in diagnosis depends upon careful routine observation and record. Therefore we would urge the thorough examination and full recording of all eye cases. The author's method is in every instance to first determine the visual acuteness and any refractive error that may be present, the range and power of the accommodation, and the strength and balance of the extra-ocular muscles. The appearance of the lids, lachrymal sac, conjunctiva, sclera, cornea, iris, aqueous humor and lens are carefully noted. Following this, a thorough ophthalmoscopic examination of the entire fundus should be made. The examination as to the field of vision and color perception is not necessary except in more rare instances, and is therefore only made when the previous results indicate the necessity.

Examination of the Outer Structures.—Much can often be learned, before touching the eyes for an examination of the individual structures, by noting the general appearance of the patient and of the eyes. One important factor in children, which is often neglected by many physicians, is to first secure their aid and confidence. A few moments spent in acquiring

the child's trust and attention will give better results and save time later on. We can note the presence or absence of photophobia, lachrymation and discharge from the eye; the character of the discharge—if purulent or mucus, thick or thin, bland or excoriating. A paralysis of the muscles can often be recognized by the inclination of the head, and the deviation of the eye will denote either a paralysis or strabismus. Twitchings of the lids, the face or other parts of the body will indicate nervous disorders. The expression of the face and general physical condition are also to be noted.

The lids first attract our attention when we come to examine the eye proper—if swollen, whether hard or tense, or soft and œdematous; their mobility and position; their edges for distorted cilia; the presence of parasites or inflammation; their inner surface for granulations, cicatrices, secretions, and foreign bodies.

To examine the inner surface of the upper lid and the superior cul-de-sac, which, as a rule, gives more characteristic indications than does the lower, and to remove foreign bodies, it is frequently necessary to evert the upper lid. This procedure is quite simple after one acquires the knack or practice, but to the unaccustomed often difficult. The eyelashes of the upper lid are seized by the index finger and thumb of the left hand; the lid is then drawn downward and away from the ball; the point of the thumb of the right hand or a pencil is then placed above the torsal cartilage of the lid, and, by a quick downward pressure of the thumb and a simultaneous upward movement of the left hand grasping the cilia, the edge of the lid is turned over the point of the thumb. During the entire manœuvre you must insist upon the patient keeping the eye downward; if not, the eversion of the lid becomes unnecessarily difficult and painful. When everted, the thumb of the right hand presses the edge of the lid backward against the eyeball and holds it for examination.

The lachrymal puncta and sac should be examined for any obstruction, and by pressure over the sac notice whether any mucoid material or tears can be expressed from the puncta. The inspection of the *conjunctiva* shows us the presence of phlyc-

tenules, pterygium, growths, adhesions, etc. The vascular condition of the eye affords most important information, and it should receive careful attention. Note if the redness is due to the large, tortuous, bright-red superficial vessels of the conjunctiva, which are especially numerous toward the periphery and looser portion of the membrane, or if fine, radiating lines, pink in color, confined to the ciliary region, and due to the episcleral vessels. The character of the congestion can be determined by gently rubbing the lower lid over the eyeball, when it will be seen that the coarser conjunctival vessels will glide over the deeper episcleral ones. In some cases we may note a leash of vessels, more or less pyramidal in shape, with the apex toward the cornea, indicative of ulceration. Again, we may see a marked enlargement and tortuosity of the episcleral veins, pointing out a glaucoma.

The thorough examination of the conjunctiva and cornea in young children where there is much photophobia and inflammation is usually a matter of great difficulty. When, owing to these causes, there is a spasmodic contraction of the lids, their forcible separation can be best accomplished in the following manner. The nurse or attendant seated at your side lays the child across your lap, with the head held firmly between the surgeon's knees. The attendant in this way can readily hold the child's hands, feet and body, while the head is held as within a vise by the surgeon's knees. A towel should first be placed across the lap of the surgeon, to prevent the staining of the clothes from any solution that may be used. The surgeon then grasps the ciliary border of the upper lid with the index finger of the right hand and with the thumb of the left hand the border of the lower lid. In opening the eye the pressure must be mainly upward toward the supraorbital ridge, and just sufficiently backward to prevent the eversion of the lid. Great care must be used *not* to make too great pressure backward or downward upon the eyeball, because in an ulceration of the cornea (which is so apt to be present in cases where this method has to be resorted to) the pressure is liable to cause a rupture of the cornea, with loss of the eye. Many an eye has undoubtedly been lost through careless and severe handling in an

effort to examine the same. You will often have to hold the eye open several minutes before a clear view of the cornea can be had, as it will roll so far upwards that the cornea cannot be seen until the muscles have become tired out and allow it to resume the direct position. In some cases, when one has become especially dexterous in the manipulation, they can open the lids by the use of the thumb and index finger of the same hand, leaving the other hand free to make any necessary applications.

As the examination of the *cornea* is greatly facilitated by the use of the oblique illumination, it should always be employed. This cannot be too strongly emphasized, as we have frequently seen our students, by neglect of this method, overlook some minute yet important diagnostic sign which was easily discernible by the use of the oblique illumination. Make it, therefore, a routine practice in all cases when examining the exterior part of the eye. Its use aids the minute examination of the lids and conjunctiva, as well as the cornea, iris, lens and aqueous. By it we may often determine small superficial ulcers and abrasions, commencing interstitial infiltrations, faint opacities or nebulæ, and particles of foreign substances imbedded in the cornea. The discovery of minute tears or abrasions of the corneal epithelium may be aided by the instillation of a drop of a 2 per cent. solution of the potassium or sodium salt of fluorescin. This should be dropped upon the cornea; and, followed by a washing with distilled water, any break of the epithelium will be made apparent by a deep greenish stain, which remains for about two hours.

Oblique illumination, or, as it is sometimes called, *focal* or *lateral illumination*, is used as follows: The patient is placed two feet from the gas-light in a darkened room, as preferable to daylight; the light is then brought to a focus upon the cornea with a two- or three-inch lens; the surgeon may at the same time observe the surface under examination through another magnifying lens held before the eye. In order to focus the light upon the different structures the illuminating lens will have to be moved slightly according as the pencil of light is made to play over the cornea, iris or lens.

Inspection of the *iris* may frequently reveal normal physiological differences in color or shade of the two irides; and we may also have, instead of the uniform pigmentation, one or more irregular spots of different colors. We can also detect, by the oblique illumination, swelling, discolorations, and vascularity of the iris tissue; the loss of lustre or the presence of gumma, foreign bodies, etc.; the shape and size of the pupil, and the presence of adhesions to either the cornea or lens. The mobility of the iris should be carefully studied, as the pupils of the two eyes should act consensually. To examine, the patient is placed before a window in daylight and directed to look at a distance. One eye is then covered; the other exposed eye will contract to the bright light, while the covered eye acts in harmony. If both eyes be now shaded dilatation ensues, and if then again exposed to the light contraction immediately follows, succeeded in a moment by slight dilatation and again contraction. Thus oscillating for a moment, it finally settles down to its original size. This action is called *hippus*, and is sometimes present, in a marked degree, in cases of hysteria, mania, and other nervous disorders. As the pupil contracts under the influence of accommodation and convergence, care must be taken during the examination that the eyes are constantly fixed on a distant object.

Dilatation of the pupil occurs in glaucoma, atrophy of the optic nerve, from fright, in anæmia, nervous conditions, etc., in young people, and from the use of mydriatics. According to McEwen, dilatation in diseases of the nervous system, when of cerebral origin, indicates extensive lesion, and when of spinal origin, irritation of the part.

Contraction of the pupil occurs in old people, from the use of myotics, is present in inflammation of the iris, in some fevers, in mitral diseases and pulmonary congestion, and in paralysis of the sympathetic. If of cerebral origin, as in meningitis, it indicates an early irritative stage of the disease; if of spinal origin, a depression, paralysis, or even destruction of the part. The Argyll-Robertson pupil is the small, contracted pupils which, affected little or none at all by light and shade, respond by contracting still further under the influence of convergence.

This action of the pupil is found in degeneration of the posterior columns of the cord, and indicates a serious central lesion.

The examination of the *anterior chamber* and *lens*, also, by the aid of the oblique illumination, shows if the former is more shallow or deeper than normal, the presence of any exudation, etc.; while in the lens the faintest trace of disturbance or inflammatory change can be detected.

Proptosis, or protrusion of the eye, if unilateral, may be noted by comparing the position of the cornea with each other and with the brows. It is present in Graves's disease, orbital diseases, intraocular tumors, paralysis of the ocular muscles, etc.

Finally, the *tension* of the eye should be noted. To estimate the tension of the eyeball the patient should be made to look downward and to gently close the eyes, for, if squeezed tightly together, that alone may slightly increase the tension. The index fingers of both hands should be applied to the lids, as there is not the same delicacy of touch between the first and second fingers of the same hand, and pressed gently first with one finger and then the other. The tension should always be estimated from palpation on the sclera some distance back of the cornea. Estimate according to the resistance or indentation of the globe. Tonometers or instruments devised for estimating the tension have been employed, but are hardly practical for general use. The following signs are used for designating the degree of the tension, viz.: Tn, tension normal; T + ? or T — ?, a doubtful increase or decrease of tension; T + 1, a marked increase as compared with normal; T + 2, a great increase, but the globe admits of some dimpling; T + 3, stony hardness, or no impression from firm pressure; T — 1, a decrease as compared with normal; T — 2, greater loss of tension, and T — 3, eye very soft—no tension at all. The tension differs physiologically in different eyes. The sclera is more elastic in young than in old people; a large eye yields more than a small one, and variations in the form of the eye affect the tension. Diseases of the sclera might increase or decrease the tension. Variations in the curvature of

the sclera at the point of impression will cause a slight difference in the tension; the greater the curvature the softer the eye. The tension of one eye should always be compared with its fellow, and, when in doubt, with an eye known to be normal in a person of the same age as the patient.

GALVANISM IN XANTHOMA (XANTHELASMA); ILLUSTRATED BY A CASE.

HORACE F. IVINS, M.D., PHILADELPHIA.

THIS rather unusual facial blemish generally appears about middle life, rarely before; and although it is not, in any way, locally irritating or harmful, its presence is a cause of much annoyance to its owner, particularly if she be a society woman. Text-books recommend but one method of treatment, namely, excision, if that can be performed without causing ectropion. Although xanthelasma is the term usually employed, xanthoma is the more correct word, as will appear from the following definitions, as given in Foster's *Medical Dictionary.*

"*Xanthoma.*—A neoplastic disease of the skin, occurring most commonly, though not always, near the inner or outer canthus of the eye and, usually symmetrically, in the form of soft elevations or flat patches of a light- or dark-yellow color, due to new formation of connective-tissue, together with a deposit of fat in the corium and subcutaneous areolar tissue."

"*Xanthelasma.*—A very rare pathological variety of xanthoma, in which there are developed first, nodosities, and afterward tumors, varying in size from that of an almond to that of a hen's egg, and generally lobulated."

CASE.—In 1894 a maiden lady, a decided brunette, age forty-five years, consulted me in reference to a slight intraocular defect. At an early subsequent visit she spoke of the xanthoma which had given her much mental discomfort, but supposed I could do nothing for these disfigurements, as she had been told that they were too large to be operated upon. The

two oval, slightly elevated, yellow tumors—one on each right lid, near the inner canthus—were nearly equal in extent, each measuring $\frac{7}{16}$ by $\frac{5}{16}$ of an inch. On the left lower lid, near the nose, were several yellow points, with a clearly-cut outline, which was larger than the patches on the right side. The well-defined and very conspicuous tumors on the right lids had manifested themselves about two years before Miss ——'s first visit to me, and which, she said, began much as the left then was. The right patches were slowly increasing in color, thickness, and circumference; and according to the report, the left lid had grown perceptibly worse within the last few weeks. Owing to the size of the patches—which if excised must result in eversion of the lids—I advised against the usual cutting operation. Electrolysis was discussed, but as, after the destruction of moles, etc., I had sometimes seen slight depression or redness, I could not promise complete success. My doubts were apparently confirmed in the April, 1897, number of the *Annals of Ophthalmology*, in which journal Dr. Francis B. Kellogg, under the title "Electrolysis for Xanthelasma," relates the incomplete history of a case in which he used the needle. But since, at the patient's last visit, the scars and "xanthelasma" had not entirely disappeared, it cannot be called a complete success, although the treatment gave great improvement. The doctor advises a weak current and long exposure.

I suggested to my patient the possibility of a cure from the use of the galvanic current; she at once asked that it be tried. A current of five milliamperes was applied—for five minutes—to each xanthoma. As soon as the pricking became painful, the current was broken for a few seconds. A specially devised electrode—with hard rubber insulation—was used. Two pliable silver rods, $\frac{3}{32}$ of an inch in diameter, were so adjusted as to be easily approached to contact or separated to two inches. These two electrode points, wet in salt water, were so separated as to bring one at each end of the patch, on the normal skin. After the second application—two weeks from the first—an improvement was evident, and at the end of fifteen treatments all of the deposits had disappeared, leaving the skin in a normal condition, much to the delight of all interested. The success

of the treatment in this case—which is, so far as I know, unique—has been so highly satisfactory that I should recommend it to you as the one simple, safe, and thoroughly cosmetic method of removing xanthoma.

DISCUSSION.

Dr. Edward M. Gramm: *Mr. President, Ladies and Gentlemen*—The subject of xanthoma is exceedingly important to those doctors who meet the difficulty only upon the eyelids. I want, however, to call attention to the fact that xanthoma develops on other portions of the body also. The cellular elements which infiltrate the areas and produce these chamois-leather, soft, yellow deposits, are of such a character that they are sometimes re-absorbed, but always have the yellow color. Frequently they disappear spontaneously. While I do not want to throw cold water on the treatment by galvanism, for we all know its power of absorption in a great many neoplasms, yet the fact should be borne in mind that even in widespread distribution of the lesions over the surface of the body they disappear completely in a certain proportion of cases with no treatment; in other cases they remain in spite of any treatment, and even recur when excision is practiced.

Dr. Van Baun: I would like to ask Dr. Gramm what he has to suggest as a remedy for xanthoma?

Dr. Gramm: Dr. Ivins meets the objection to the removal by taking away any tissue very satisfactorily. In a great many cases, to remove them by any method which would absolutely destroy these neoplasms *in situ* would produce the turning outward of the eyelid. That is so serious an injury to the eye that it is a very hard matter to decide what to do. The administration of an internal remedy offers, theoretically, the most satisfactory method of removing these growths, if we can get indicating symptoms, but many patients who come to us with xanthoma have no symptoms. A method which has been recommended by a great many authorities is the application of bichloride of mercury collodion of medium strength—that is not rapidly escharotic—say ten grains to an ounce of collodion, painted on these spots of xanthoma, if appearing on the eyelids

alone; but general xanthoma is a truly sad condition for the patient.

Dr. W. C. Goodno: I believe that these growths can be removed surgically without a scar. I do not deal in surgery nowadays, but two years ago I removed about an inch and a half square of such a development from beneath each eye. I began, first, with the use of the electric needle, introducing it beneath the skin, and placing the positive pole on the surface of the body. The result was not satisfactory, there being a little scar at that point. I then removed narrow strips of this growth, allowing the denuded surface to heal in the location of these strips; but although I say I removed an inch and a half square, there was not the slightest eversion of the eyelids. All that is necessary is, do not go too deep. Sharp scissors are better than a knife.

Dr. H. S. Weaver: In the case referred to by Dr. Ivins, the growth was very dense and it was cut. This was there for a number of years. I attribute the cure in this case to electricity, for each treatment showed decided improvement.

REPORT OF THE SECTION OF MATERIA MEDICA.

Gelsemium Sempervirens, by Edward Cranch, M.D.
Some of the Reasons that Contribute to Failures in Homœopathy, by J. D. Boileau, M.D.
Nitric Acid, by Mary A. Cooke, M.D.
Fragmenta, by C. S. Middleton, M.D.
The Homœopathic Uses of Cina, by Charles Mohr, M.D.

GELSEMIUM SEMPERVIRENS.

EDWARD CRANCH, PH.B., M.D., ERIE.

A WELL-KNOWN modern sacred writer, seeking a clear comparison for the insidious evils of life that we are all, alas, too prone to favor, likens them to "sweet poisons that kill, and flowers beautiful of aspect, concealing deadly venom in their beauty." If we wish to go on and name a specimen of this lethal class we will easily find, high in the list contesting for so doubtful an honor, "Gelsemium Supervirens," the yellow jessamine, or jasmine, a favorite of Southern gardens. It is of charming beauty, and of heavy, almost narcotic but wholly delicious perfume; yet to chew its twigs or roots, or to drink of its infusion, will easily occasion sickness and death—a quiet death, with paralysis of motion, respiration and circulation; rarely with convulsions, or with premonitory loss of consciousness.

It is said to owe its introduction into medicine to its accidental, almost fatal, substitution for the root of another desired plant, in a case of bilious fever—the fever wholly disappearing after recovery from the acute poisoning by the gelsemium. It was first widely-introduced to the notice of the profession by E. M. Hale, in a "Monograph on Gelseminum," published in 1862. The correct spelling of the name was adopted later,

and more was written about it in the several editions of "New Remedies," by the same author. The plant was also well studied by Roberts Bartholow and other authorities on materia medica. Of late it has grown with all desired speed in professional esteem, being used by all schools, in great variety of dose, and to fulfil a variety of indications. To-day its name is as familiar as that of aconite, and in frequency of use it outranks it, and closely rivals those giants of the materia medica, mercury, nux vomica, bryonia, belladonna, cinchona, arsenic, iron and pulsatilla.

Full doses of gelsemium act promptly on the healthy and on the sick, and either death or recovery follows in a short time, in a few hours or days at farthest, and there is little or no chronic action. In short, it is a typical "kill or cure" remedy. Women are more susceptible to its action, as a rule, than men.

There are caused, by its action, severe pains in eyebrows and eyes, dropping of the lids, even paralytic ptosis, with more or less drowsiness, pallor, chilliness, and general prostration, so that the voluntary muscles cease to obey the will, with special weakness of forearm and leg and relaxation of sphincters. Then there is a mistiness of sight, with blindness or double-vision, and occasionally deafness; painful vacuity of mind, but not unconsciousness; then paralysis of respiration and of circulation, with fear and alarm, not for the future, as with aconite, but for the present. Prostration increasing, death may quietly ensue, unless prevented by the timely use of stimulants, such as alcohol, ammonia, camphor, morphine or electricity, all which are antidotal to gelsemium. If death has not closed the scene, the reactive or secondary symptoms come on; the chilliness gives place to moderate but continuous fever, and this may again be replaced by profuse sweat, breaking up the fever. The torpor and the muscular relaxation change to irritability and jerking of single muscles, or to tetanic strain of sets of muscles, or, rarely, to clonic convulsions; the relaxed sphincters become rigid; the drowsiness becomes wakefulness, accentuated by an itching, sometimes eruption, on the face, neck and shoulders. The pallid cheeks become flushed to crimson; the nose, mouth, throat and chest feel dry, and there

may be coryza, tonsillitis and bronchitis, associated with aching over the heart, and soreness of the abdominal walls. There are also numbness of the tongue, awkward speech, dysphagia and nervous cough. When the heart is weak the patient feels that he must keep moving to keep it going. (Exactly the reverse happens with digitalis; then the patient dreads the least motion, lest the heart should stop beating.) There is no tingling or pricking of the tongue, as in aconite, and the dryness is more a sensation than an actual condition, such as is found, both subjectively and objectively, from belladonna. The gelsemium subject suffers little or no thirst, and the restlessness, if present, is more in the nervous feeling than in actual motion. The pulse becomes fuller, softer and, perhaps, intermittent; the capillaries become engorged, even inflamed, and passive congestions, or apoplexies, follow. In any stage a staggering, drunken vertigo assails the subject if he attempts to move, just as his thoughts evade all efforts at prolonged concentration. The sexual sphere is weakened, and impotency and cessation of function are events in the action of gelsemium. Enuresis, or dribbling of urine, may be left as an effect of relaxation, while, if given in labor, it may arrest pains and retard progress, first by weakness, then by the reactionary rigidity. There are soft, yellow stools, and occipital pains or dulness.

Such is the pathogenesy or story of the symptoms caused by the drug we are considering in varying doses, but mostly from the fluid extract in officinal portions, five to twenty drops, repeated every one or two hours till effects are manifest. The smallest fatal dose found on record was fifteen drops of the tincture, in an adult, or the chewing of an uncertain amount of the root by two children. The largest dose from which recovery was secured (by the free use of stimulants) was estimated as between a half a pint and a pint!

We will now consider the homœopathic action of the same drug by recording, with comments, its most characteristic symptoms, which justly deserve the name of "key-notes," since any one of them will serve to suggest the administration of gelsemium (in a sufficiently small dose to avoid unpleasant aggravation).

Fever Moderate, but Nearly Continuous, with Fretfulness or Erethism.—(A combination of excitement and prostration.)

(Suggestive in epidemic influenza or grip, in commencement of typhoid or other continued fevers, in dentition, in tuberculosis, and in convalescence from several disorders.)

Chilliness, with "Goose-Flesh" Appearance of the Skin.—(Found in those who take cold easily, are easily fatigued, and as a prodrome of intermittent or other fevers. It is generally associated with an indefinable feeling of illness, sometimes with shivering or chattering, as often happens before or after labor. This generally passes off without treatment; but in intermittent fevers of simple type, especially when the chill comes, as it sometimes does in the afternoon or evening, the drug is exceptionally valuable.)

Sensation of Fatigue, with Aversion to Muscular Effort, Particularly in Hands and Forearms.—(This symptom is co-extensive with the fever, but is also found in labor, after protracted effort, with loss of sleep. In these conditions a dose of gelsemium will restore ambition, and the activities of labor will be renewed.)

Aversion to Talking or Being Talked to.—(This arises from aversion to mental effort, as when one has been through any exciting or fatiguing experience, and feels as if it would hurt the brain to have to tell it all over to inquiring friends; one would far rather lie down and rest in silence. The physician often comes into this state when he feels real brain fatigue, and dreads to hear the office-bell announcing "one more patient." When this state becomes at all persistent, a dose or two of gelsemium 30 will relieve it promptly.)

Giddiness and staggering, as if intoxicated.

Double vision, especially when looking straight ahead.

Wakefulness, with nervous tremors, and itching of face, neck and shoulders.

(These three symptoms very often appear together, or together with any of the preceding ones. They are very suggestive and valuable in alcoholism, and commencing delirium tremens.)

Relief from Stimulants.—(This also goes with the above. It is derived from the antidotal force of stimulants in cases of gel-

semium poisoning, and is a key-note given by Dr. C. W. Butler, and often verified. It will suggest the drug in grip, in the first stages of bronchitis, in the paralyzing effects of cold water, as after exhausting swimming, or prolonged immersion, in fatigue, with feeble circulation, in exposure to stormy or cold weather, and in convalescence from illness; also, as above, in delirium tremens. It will often take the place of the coveted dram, and remove the craving.)

Effects of Fear and Fright, the Actual Terror Being Allayed.—(A lady in Erie was told that her house was just burned down. She ran all the way home, found it not so bad as feared, but bad enough. She went right to bed, was faint, and broke out with an eruption like hives over the face, besides suffering pain over the heart, and gasping for breath. Gelsemium 1000 relieved her in a very short time.)

Diarrhœa or Enuresis, from Fright and Apprehension.—(This symptom is in line with the last, and agrees with the states caused in well persons by the drug. These effects may be observed in those going into battle, like Gen. Price of Missouri; in one preparing for a wedding, or for any appearance in public; in those awaiting a surgical operation, whether surgeon, nurse or patient; in those coming up before a board of examiners. Threatened abortion, caused by fright, may be often averted, especially if there be shivering, dimness of sight, or vertigo.)

Dimness of Sight, of Nervous Origin.—(As in syncope, in commencing meningitis, in vertigo, in metrorrhagia, in exhaustion from heat, as over a stove or oven, in prostration from coition or from onanism, in debility from cigarette smoking, in post-diphtheritic amaurosis, in concussion of brain, especially when the blow was not apparently severe, in surgical shock, in epileptoid convulsions, in hysteria, catalepsy, and in puerperal eclampsia, etc.)

Effects of Eye-Strain—(Gelsemium is a very valuable aid in correcting these cases, often entirely superseding lenses, and curing paralysis or spasm of single or associated muscles of the eye, especially when there is double vision, headache of brows or of occiput, and vertigo. It is of the most value in serous

inflammations of the deep portions of the eyeball, involving the iris, choroid, and vitreous, with hazy smokiness of vision. It has proved curative in retinitis albuminurica, and of great assistance in cases of detachment of the retina.)

Crimson Tint of Face and Tongue, in Fever.—(This is in contradistinction from the scarlet hue of belladonna, and the dusky hue of ailanthus, the deep flush of baptisia, etc. It is of value in grip and apoplexy.)

Muscular Inco-ordination.—(This, with its allied symptom, twitching of single muscles, is of use in selecting gelsemium for the earliest stages of locomotor ataxia, and that disorder may be thus averted, if not too firmly established.)

Post-Diphtheritic Paralysis.—(In this symptom, especially in the common form of dropping of the palate, gelsemium comes near being a specific. It was most highly thought of by the late E. A. Farrington, but must be compared with crotalus and with cocculus and naja.

Departing from the special characteristics, gelsemium will also repay study in ailments with occipital pains and dulness, with relief from micturition, and aggravation from light, especially candle-light. Also in facial neuralgia, especially of the supraorbital and infraorbital nerves. In spermatorrhœa, with debility and impotence, as from onanism or excesses. There may be timidity, embarrassment, easy blushing, feeling of suffocation, feet and hands alternately hot and cold.

In writer's cramp, in acute mania, in the nervousness of pregnancy, in albuminuria, in vernal intermittents, remittent fever, bilious fever, and yellow fever, in laryngismus stridulus, in tetanus, in snake-bite, in deafness from quinine, and in cholera infantum, when the child lies motionless; in renal colic, in gall-stone colic, in hydrophobia, in roaring of ears, in dribbling of urine, in face-pimples, and in fear of thunder-storm.

While the fever of gelsemium is very noticeable, the patient is by no means so hot or so thirsty as in belladonna cases, not so violently restless and anxious as with aconite, not in so much pain on motion as in bryonia. The secretions of gelsemium are not so profuse as are caused by natrum muriaticum, not so slimy as come from mercury, not so irritating as are produced

by arsenic, nor is its neurasthenia so profound as that of the last-named drug.

The dyscrasia of the blood is not so great as with baptisia, nor the digestive disturbances so great as with podophyllum or aloes; the inflammations of gelsemium are not so acute or severe as with ferrum phosphoricum; the dulness of sense is less than that of opium (it is said to have been used in the Southern States as a substitute for opium during the blockade in the Civil War). Yet gelsemium has strong affinities with all these drugs. With belladonna, it has sensitiveness to sudden impressions, and irritability and paralysis of sphincters; with aconite, it has sudden coryza from cold, and fearfulness or timidity; with bryonia, it has white-coated tongue and bilious disorders, and aggravation from heat of room or of weather; with mercury, it has slow fever, moist tongue, tremors and vertigo, but the sweat of gelsemium relieves, while that of mercury does not. The catarrhal symptoms are strikingly like those of natrum muriaticum, but with more fever; the prostration reminds one of that of arsenic, but is less persistent. Baptisia is of use in many fevers, but its delirium is greater, and its secretions far more foul, than those of gelsemium. With aloes there is also treachery of the sphincters; they "lose their pucker" with very slight warning, and with podophyllum there is a painless diarrhœa; but, in contrast, the gelsemium patient is much more nervous and more affected by change of weather. The drowsiness, quietude, free perspiration and nervous wakefulness of gelsemium find their counterparts in the action of opium, but the latter lacks the chills and the fearful muscular weakness of the former. The ideas of gelsemium patients change and vacillate; those of aconite are fixed or constantly recurring. Many other comparisons might be instituted, but here are enough for present purposes.

In the allopathic and eclectic practices it is used in full doses up to the production of brow-pains and commencing ptosis. In some works it is recommended simply as a depressant of the pulse and a refrigerant in fever, wherein they truly say that its use (in *their* doses) is too dangerous. It is recommended, with an approach to confidence, in neuralgias of the supra- and infra-

orbital nerves, where it is really homœopathic. It is also mentioned as useful in the relief of itching (it causes a measly eruption) and in congestion of brain, mania and meningitis, in abuse of quinine, in snake-bite, in convulsions caused by teething or indigestion, in uterine rigidity, after-pains, etc.; but these uses are mentioned with doubt, as from insufficient evidence. In other works it is especially recommended for gall-stone colic, in cerebro-spinal and remittent fevers, in tetanus, delirium tremens, asthma, whooping-cough, vertigo, headache from eyestrain, torticollis, dysmenorrhœa, after-pains, hæmoptysis, pneumonia, pleurisy, acute coryza, prurigo, eczema and rhus poisoning. No indications are given, and the dose is stated as from five to twenty drops of the fluid extract! and repeated every one or two hours! Some of the above recommendations are on the merits of the drug as a relaxer and depressant; others call upon the reactionary or homœopathic action. But there is no recognition of that wonderfully helpful law, enunciated by Hahnemann, by which the characteristic symptoms of this paper were selected, as a brief comparison of these with the pathogenesy will demonstrate.

It was thought at first, even by the present writer, that gelsemium acted best in the lower potencies, the second or third, but later experience has proven that it acts well in the 200th and the 1000th. In cold weather it is of almost daily use, but in summer, at least on the shores of Lake Erie, it is hardly ever called for. Further south, its use is evidently called for in all seasons.

The key-note of the whole drug is its combination of excitement and depression—its NERVOUS ERETHISM.

SOME OF THE REASONS THAT CONTRIBUTE TO THE FAILURES IN HOMŒOPATHY.

J. D. BOILEAU, M.D., PHILADELPHIA.

THE report of cases cured by the administration of the properly selected homœopathic remedy while frequent, still continues to excite our wonder and admiration. That they should have done this when Hahnemann first announced his principle of cure, in strong contrast to the methods common in his day, is not at all surprising. Since homœopathy rests upon an eternal, infallible law of nature, why should its operations be to us, who are daily witnessing its effects, a continuous surprise?

Why should we not rather marvel that we fail so often in our efforts to control and direct that infallible law, or force of nature, to accomplish our purposes in the healing of the sick. That we do often fail is too frequently our common experience.

If homœopathy is a science whose application is based on a natural law, and as natural laws always operate with unwavering precision, why should we not expect the same constant results in homœopathy as are found in chemistry or mathematics? For any natural law to act, certain conditions are essential. If the conditions are favorable, and the law fails to operate, then the fault must be in the application or understanding of the law.

As to the conditions, Hahnemann, in the *Organon*, implies his failure to at all times accomplish his purposes in the application of the laws of homœopathy which he himself declared. He says in Paragraph 75: "Instances of ruined health, resulting from allopathic treatment, are very common in modern times. They constitute the most pitiable and incurable of chronic diseases, and it is to be feared that remedies will probably never be found or invented for the cure of such

conditions when they have reached a certain degree of severity."

How frequently do we have just such chronic cases presenting themselves? How many of the symptoms are due to the disease, and how many to drug action? Who can answer? Even in acute cases, and in families, too, who are accustomed to our method of treatment, are we told that "sweet spirits of nitre" or pills or oil has been given.

Paragraph 91: "Symptoms and sensations experienced by the patient during some previous use of medicines do not furnish a true image of the disease." Note 131—He enumerates a long list of things to be avoided and habits to be corrected, and then says: "All these conditions and circumstances should be carefully avoided and removed, lest the cure might be impeded or rendered impossible."

I have seen the most happy results from the administration of the homœopathic remedy to animals, and our allopathic brethren even admit, reluctantly, that we sometimes cure children, which is probably due to the fact that the adverse conditions, mentioned in note 131, are absent to a much greater extent in animals and in children. These adverse conditions at once interfere with the selection of the proper remedy and with its action, were it possible to select it.

Another condition might be the individual susceptibility to drug action, or rather their insusceptibility to the action of certain drugs. Thus some are not affected by contact with "rhus;" are they also unaffected when it is administered in different potencies? If so, would rhus act curatively in such a one? Would such a one be likely to be affected with a disease whose totality of symptoms would call for the administration of rhus?

These are but a few of the many conditions that might interfere with the operation of the great natural law of cure, but of equal importance is the proper application of the law, and nowhere are we so well advised as to this as in the *Organon*. Every detail is carefully given by the Master, and often the reasons are plainly stated. Equal importance is attached to each, so that nowhere is it taught that this must be carefully observed and that need not be.

There is the examination of the patient and the probable effect of previous diseased condition or previous medication, habits, occupation and environments.

Then, too, the method of drug-proving is to be considered of equal import, and doubtless many symptoms have crept into our materia medica that should have no place there, and our results will not be as they should until many of our old remedies are reproven by the light of advanced science of the present. Charles Mohr, M.D., in a report of the Pharmacological Society of the Hahnemann Medical College of Philadelphia, before the State Society in 1896, describes the manner in which a drug is proven by that Society, which seems to be the correct method, and the one most likely to give us a pure materia medica.

Paragraph 7 says: "The totality of these symptoms, this outwardly reflected image of the inner nature of the disease, *i.e.*, of the suffering vital force, must be the chief or only means of the disease to make known the remedy necessary for its cure, the only means of determining the selection of the appropriate remedial agent." Here, then, is the concise rule for the selection of the remedy, on the basis of totality of symptoms, and not by the name of the disease, neither by some prominently striking symptom which may of itself have been the cause of the patient seeking relief.

There is too great an inclination after having once chosen the remedy to readily change it for another, either because an improvement is not at once noted or because of the appearance of new symptoms, which, if careful investigation be made, will often be found under the remedy selected, or may have been brought into prominence by the action of the remedy. Note 126 says in part: "As a matter of course, the physician should be fully convinced of the accuracy of his selection of the remedy before attempting a repetition of doses. In acute diseases the time for the repetition of the proper remedy is regulated by the rate at which the disease runs its course." Further on it is stated that "repetition may be required from 24 hours to 4 hours, or even every 5 minutes, as in the case of camphor in cholera."

Where, then, is the authority for repeating the dose every

hour, as is the prevalent custom with many physicians, irrespective of the rate at which the disease runs its course?

One other matter worthy of more consideration is the manner of administration, or the vehicle used to convey the drug into the system of the patient. Of all the methods used, it occurs to me the habit of administering a homœopathic remedy in water, as many of us are accustomed to do, is wholly wrong. The glass, too often, is not clean, especially if it has just been used for medicine. The spoon is removed from patient's mouth, rested across glass without cleaning, and then used again. The water may contain mineral salts, organic matter, disease germs, fungi, and, when left standing 24 hours in a sick-room to absorb the odors and exhalations from lungs and bowels, together with iodoform, carbolic acid, chlorides, etc., it becomes simply revolting. And again, would not a potentized drug in strong alcohol be destroyed when diluted with so large an amount of water, else why not use water instead of alcohol in making potencies?

In conclusion, no attempt is here made at originality, but simply a recognition of the fact that the homœopathist sometimes fails in his aim and purposes, and that these failures do not in the least degree disprove the laws of cure given us by Hahnemann, but rather are due to adverse conditions and misapplication of these laws. If a more careful study be made of the *Organon*, and earnest effort be made to follow its every detail, failure will be less frequent, and the inclination to almost unconsciously follow the empiricism of the old school will become less.

DISCUSSION.

Dr. C. Mohr: *Mr. Chairman*—I have been very much interested in Dr. Boileau's paper, but I am not prepared to say, as he does in that paper, that the method which The Pharmacological Society has adopted in conducting provings is a correct one; that requires to be proven. I want to say that there is much said, and there has been much said within the last few years, about the many symptoms that have crept into the materia medica which makes it of doubtful value in assisting the

physician in getting a drug prescribed homœopathically; but I believe this has been very much overrated and too much talked about, and I believe that this is one of the reasons that a great many practitioners of homœopathy fail when they try to administer drugs to the sick according to homœopathic methods; I believe that it is because they have been led to doubt the materia medica to such a great extent. I think the time has come when the reaction has set in, and I believe that if we would go to the materia medica of Hahnemann and works that have not been reduced too much—we have been cutting out symptoms that were supposed to be senseless—we would find many a remedy that would act curatively, whereas now we fail to find it because we are groping about continually in reference to the source of pathogenetic supply.

Dr. Edward M. Gramm: There is a thought that has struck me in the reading of this paper which has not been mentioned. It is this: Year after year we have all sorts of agents coming into our offices, and each one underbids the other in medicines, triturates and tablets, and we are apt to be led into purchasing medicines from firms who have no idea and who exercise no care in keeping their medicines pure. We have firms who make tablets at a very low figure, and they are purchased by our physicians by the thousands. These firms have been in the business of mixing crude medicines for years, and they simply see a lucrative field open to them for making tablets out of homœopathic preparations; they have no idea of keeping the drugs pure, and I believe that the market value of drugs has been responsible for many failures to obtain results in prescribing. Not long ago I was struck by a circumstance that would not be tolerated by any one of us who believe in the effects of potentized remedies. I went to a drug store to buy alcohol. In some way the cork material got into the bottle, and I asked to have the bottle washed out with distilled water. The drug clerk, who was putting up a prescription, poured the water in, stuck his finger full of powder into the bottle, shook it, and handed it to me. And it is just such a circumstance as that that has an effect on our remedies. It seems to me that while it is the custom of our physicians to complain of the profits

made by our homœopathic druggists, who are themselves firm believers in the homœopathic law of cure, we should still think that they know the necessity for the purity of drugs and require them to be kept so. I am not cracking up any particular medicine firm, but have often thought, when a special company's agent comes in, What is the use of buying from these people? They know nothing about the purity of medicines, nor do they care.

NITRIC ACID.

MARY A. COOKE, M.D., PHILADELPHIA.

The drug which is the subject of this brief paper has been known to the homœopathic school from its beginning, as Hahnemann published its pathogenesis in the second edition of *Chronic Diseases.*

While we welcome to our aid, in our battle with disease, many new remedies and agencies which have justly been raised to a valued place in our therapeutic armamenture, we still often turn back to some of the old and true friends which have been used all through the homœopathic century which has just closed.

Of the escharotic properties of this drug and its uses other than homœopathic, it is not my purpose now to speak.

As I before mentioned, Hahnemann published the symptoms of this drug—1426 in all.

Dr. Hughes, in his *Pharmacodynamics*, gives us an account of a proving of nitric acid by a Mr. Scott, which, he says, constitutes an almost only genuine proving.

This gentleman was a sufferer from chronic hepatitis, and for some reason was induced to try the remedial effects of nitric acid instead of the mercurials. He took for a week one drachm of the strong acid daily, in divided doses. There was a marked diminution and almost disappearance of the hepatic symptoms, but the mouth and gums became so sore that he was obliged to desist at the end of this period.

Its sphere of action may be summed up somewhat as follows:

Its action is marked on the muco-cutaneous outlet, giving rise to soreness, fissures, and even ulceration. Its action on the buccal mucous membrane is as strong as that of mercury, and we have, common to both, soreness of gums, fetor of breath, looseness of teeth and bleeding of gums, and even swelling of the submaxillary glands. In these conditions, caused by mercury, it acts as an antidote; acts on ocular nasal and laryngeal mucous membranes; also strongly on that of rectum and anus and genito-urinary tract. Then comes its action on the liver, and more or less on the whole digestive tract. This action is spoken of by some writers as being especially marked in dysenteric troubles and ulceration of colon.

It seems to be especially indicated in diseased conditions depending on some miasm, syphilitic or scrofulous. Its usefulness in antidoting the effects of overdosing with the mercurials is well-known to every homœopathic practitioner.

Some of its prominent symptoms, as given by Hering, are as follows:

Memory weak, with aversion to mental exertion. Anxiety, despondency, sadness. Dizzy, stupid feeling in head; head sensitive to noise and jar; stitches in head; pain in skull; sensation as if constricted by a tape. Better from cold air and while riding. Head very sensitive to pressure. Inflammatory swellings in scalp. Black spots before the eyes, which are very sensitive to light. Pressure and stinging in eyes. Eyelids swollen, hard, livid. Throbbing in ears. Otorrhœa—hardness of hearing. Nose-bleed, dry coryza, ozena with ulceration. Bloating under eyelids on awakening. Lips swollen, dry, cracked; corners of mouth ulcerated. Taste bitter after eating; sour, with burning in throat. Tongue swollen, ulcerated. Mucous membrane of mouth ulcerated, with fetid odor from mouth. Same condition of mucous membrane of throat; diphtheritic deposit on tonsils and fauces, also extending to nose. Nausea, with heat in stomach; distress in stomach after eating; abdomen tender, distended with incarcerated flatus. Dysentery-like stools; also hard stool, with great pres-

sure; extremely painful pressure in rectum. Urine dark, with very offensive odor. Uterine hæmorrhage; also pressure from offensive discharge from vagina between irregular menstrual periods. Dry, barking cough from tickling in larynx and pit of stomach; worse at night; also in the day, while lying down. Palpitation of heart. Every fourth beat intermits. Rheumatic pains in forearms and fingers; also in legs and feet. Pains in limbs on change of temperature. Eruptions on skin, burning and itching, especially at night; skin becomes ulcerated.

As we see from the foregoing, there are a number of diseases in which nitric acid offers us a prospect of great usefulness, especially in ulcerated conditions depending on a syphilitic basis or those coming from mercurial abuse.

In conclusion, I wish briefly to relate two cases in which this drug has done me great service, and in both cases I have cause to believe there was a specific condition behind or complicating the trouble.

Mrs. S., age about 50 years. History of having given birth to a syphilitic child several years ago. At that time the physician in attendance told her that the baby, which was still-born, had taken all the disease from her, and she would not suffer from it (the disease) at all. From the subsequent history of the case I believe this to be a mistake, and that there is still a specific taint in the system. The labor was very hard, and terminated by the use of the forceps. The patient had never regained her health thoroughly since that time. She passed the climacteric four or five years ago. For two or three years before this was established she suffered from excessive flowing. Vaginal examination showed two small tumors, probably fibroid—one in anterior lip of the cervix and the other higher up, but appears to be in anterior wall of uterus. There was some laceration of perinæum, prolapsus of uterus, and cystocele.

This condition was partially relieved by tampons of antiseptic cotton, which the patient learned to place for herself. Later on a ventral hernia of large size developed, and with the coming of this there has been a relief of the prolapsus uteri and cystocele, though the patient suffers much from the hernia. The abdomen seems so sensitive that she cannot wear any kind

of an abdominal bandage or support, though various ones have been tried.

For some years this patient has suffered from hæmorrhage from the bowels—once or twice so profuse as to entirely prostrate her. This appeared at times before the menopause was established, but has been more profuse and persistent since that time. The source of this blood is no doubt from an ulceration in the lower portion of the bowel, though too high up to be within the reach of the examining finger or rectal speculum. The blood is dark and fluid, and often discharged with great force. There is usually some uneasiness felt for some days before a hæmorrhage takes place, though the patient don't describe it as actual pain.

A number of remedies have been used for these attacks, but nitric acid seems to me to have done the best work. A number of times the bleeding appears to have been held in check by the prompt administration of this drug. I have thought if the trouble has, as I have reason to believe, a specific basis, this may be an important factor in the efficacy of this drug.

Case No. II. was that of a boy, seven years old, who was suffering from an attack of typhoid fever. The patient had a severe attack of bronchitis at the age of two and one-half years, which had left him predisposed to bronchial trouble. I suspected a hereditary specific taint, but have had no absolute proof that such is the case. The fever ran an almost typical course. The cause was undoubtedly local, as there were several cases of it in the same street within a half-square of each other. The temperature was running from about 102° to 104°. There had been diarrhœa, severe bronchial involvement, apathy and slow speech, without much actual delirium. About the end of the second week of the fever hæmorrhage from the bowels came on.

The first attack occurred about 8 A.M., and a slighter one later on. I saw the patient about 3 P.M. and administered hamamelis 2x. The next morning I saw patient about 8 A.M. and found there had been three more hæmorrhages since 4 A.M. Of course the little patient was much weakened by the drain on the system. I had administered rhus tox. when first called

to the case, but previous to the appearance of the hæmorrhage I had been giving phos. acid, as there had been a condition of apathy which seemed to call for this drug. When I saw patient the second day of the hæmorrhage I changed the remedy to nitric acid, many symptoms of which drug he presented.

Besides the hæmorrhage and abdominal condition there was a characteristic condition of buccal mucous membrane, added to stupidity, and at times muttering delirium. On my next call in the evening of the same day found there had been one slight return of the hæmorrhage about 1 P.M., but I thought there was a slight improvement in the condition. There was no return of the hæmorrhage after this. The bowels did not move for several days, and when they did in response to an enema, the stool was a normal one. I followed the nitric acid with china, and several other drugs were given during the remaining course of the disease, but from this time on a gradual improvement set in. This case was especially interesting to me, as it is the only case of typhoid fever occurring in my practice in which I have had the intestinal hæmorrhage as a complication.

Whether or not there was behind the condition a scrofulous or syphilitic taint for which the nitric acid had a special affinity I must leave to others to decide.

DISCUSSION.

Dr. Charles Mohr: *Mr. Chairman*—I am very much interested in this paper of Dr. Cooke's, and I think it is well that she calls attention to a medicine which, during the last decade or two, has become more and more neglected by homœopathic physicians. This may be curious, and yet may be accounted for by the fact that nitric acid is not required nearly so much to-day to remove the effects of mercurialization as it was ten or twenty years ago, because then mercurialization was a common thing; but to-day it is a very uncommon thing, and I think that is one reason why nitric acid has been removed from the field of homœopathic therapeutics; and yet it is a remedy which we should not forget, as in the instance named by Dr. Cooke, and in cases where there is liver involvement in alcoholics and

in patients suffering from cystic cancer. I used this nitric acid in the third decimal dilution, freshly prepared, in a case last winter that proved fatal within the last few weeks, as it necessarily had to terminate; but notwithstanding the fatal termination it proved a remarkable result so far as nitric acid is concerned. This was a man who had a great deal of trouble with vomiting and constipation, with occasional attacks of diarrhœa and some hæmorrhage from the bowels. He was treated for some months for gastralgia; he was treated for some years for constipation, and occasionally he was treated for diarrhœa, particularly when it was associated with hæmorrhage and led to considerable depletion; but unfortunately this man had never been examined physically, and I was astonished at that, because he had such violent pains in the region of the stomach and the hepatic region. An examination revealed a cancer of the liver. He did suffer the tortures of the damned with that stomach and liver; he could not sleep, he could not take nourishment without causing a great deal of pain, and mostly followed by vomiting, so that he became very much emaciated and anæmic. I will tell you what nitric acid in that third decimal dilution did. It stopped his pain in the liver and stomach, it stopped his vomiting, it stopped his constipation, he had movements from the bowels every few days, quite well formed, and that man absolutely died of a cancer cachexia, without suffering one hour's pain after he got that nitric acid.

FRAGMENTA.

C. S. MIDDLETON, M.D., PHILADELPHIA.

The following drugs, some of which are but little used, and some but imperfectly proven, have nevertheless been of especial benefit in my hands in some instances. It was thought that it might not be amiss to offer them as "Fragmenta," as others might find use for them also, either through indications given or by more extended application.

Absinthium has often brought more or less sleep in typhoid fever when in that serious disease wakefulness has been a prominent and menacing symptom, due perhaps to nervous exhaustion and hyperæmia of the brain. So also has absinthium proved useful in allaying the nervousness, excitement, and sleeplessness in children when other drugs have either failed or not been indicated.

Antipyrin.—Some one a long while since, in Boericke's *Recorder*, advised the use of this drug, in the 6x trituration, in high and apparently dangerous temperatures, and stated that a reduction of the heat would surely follow. This result has followed its use in my hands in all the instances in which it was applied. I have never used antipyrin in massive doses, but rarely in the above potency, in which form it can scarcely be said to do harm; on the contrary, benefit followed.

Arsenite of Copper.—Dr. W. C. Goodno is high in his praise of this drug in Bright's disease when uræmic convulsions are present and the usual diminution of urea excreted. Cup. ars. has benefited some of my cases in the latter condition, especially where there was headache before convulsions had appeared. Since using this drug I have not had a case of convulsions.

Berb. vulg. has often relieved "backache" where it is not always easy to ascertain whether the trouble may be congestion of the kidneys or a muscular *ennui.* This was one of the late Dr. McClatchey's remedies for that purpose.

Borax.—Hahnemann says, in his *Chronic Diseases*, that the use of borax has been known to facilitate conception. Of this the writer thinks he has proof in one instance. He attempted to institute a series of experiments upon "fallow" cows by administering it in a food prepared especially for such, but, as the party failed to carry out the project, it was abandoned.

Calc. iod. has proved a most excellent remedy in the enlarged cervical glands of strumous subjects.

Cann. ind. is often of great benefit in "renal colic." It also cured a cough, incessant, with raising of vast quantities of frothy mucus.

Cann. sat. relieves the sudden and almost irresistible desire to urinate in certain cases, and especially in gonorrhœal urethritis.

Capsicum.—The capsicum sore throat is very red and much infiltrated, with almost incessant tickling at the top of the larynx and hoarseness.

Carbolic acid is an excellent remedy for a form of indigestion (dyspepsia) accompanied with eructations, with or without weight or heaviness at the epigastrium. It is also very effective in counteracting the scarlatina poison, but does not seem to be of service in diphtheria. Used in the 1x dilution (freely) in water, carbolic acid will *cure* small-pox, *i.e.*, get the eruption out, and carbolic acid will prevent pustulation and secondary fever. (See *Hahnemannian Monthly*, April, 1872, and Hale's *New Remedies*, 3d edition.)

Erigeron Can. has proved very valuable in my hands in hæmorrhages of all kinds, from the mouth, to uterus, blood bright and free; used in tinct.

Eryng. aquat., in tincture, 5- to 20-drop doses, four to eight hours, has cured many cases of gonorrhœa for me.

Gelseminum.—It would be impossible to enumerate the many indications for gels. I want to call attention to the great good it will do in sleeplessness, when there is great activity of the mind; thoughts flying from one subject to another, due, of course, to too much circulation of blood in the brain for sleep to come.

Gnaphalium has cured sciatica when, with the severe pain, there is numbness in the limb.

Gratiola will cure diarrhœas with characteristics very similar to those of Croton tig., but where that drug may have failed, and where the pain of croton is absent—but other symptoms present.

Hyosciamine Hydrobrom.—This drug is used largely, I believe, by the old school in insomnia of the insane. It is a powerful poison. It has never proven very satisfactory in my hands for sleeplessness. It should be used with great care. The 3x trit. has been very useful in nervous excitement and a state bordering on paralysis agitans, after the excessive use of alcohol, to-

bacco, etc. In highly excitable or nervous children who are easily frightened it has been of service. I have used it in dilution also much higher than the 3x.

Iodine will cure more cases of laryngitis and croup than any other one drug, used in 1x dilution at short intervals when case is severe. Indications: soreness, hoarseness, dry barking, crowing cough, difficulty of breathing and scanty or no expectoration. It seems to act as well in children of either temperament or complexion.

Kali chlor., according to Schuessler, has proved very valuable in glandular swellings in strumous subjects even after scarlet fever.

Macrotin.—The active principle of cimicifuga rac. will relieve congestive headaches at the base of the brain, and where uterine congestion is also present, and perhaps some rheumatic symptoms besides. 1x to 3x trit.

Merc. Bin. Jod.—I believe, to get the best result from this drug in diphtheria, it is often necessary, where indicated, to give it in large doses. The writer uses the 2x trit. and often finds it necessary to use as much as gr. V doses, frequently repeated.

Rhus rad. will cure certain forms of basilar headaches, especially where the pain radiates up the left side of the head and face. If muscular rheumatism is present the rhus rad. will be still further indicated. Dr. Korndœrfer first called my attention to the above facts. It has been successful in the 6x.

Taraxacum, Fl. ex., has cured gastralgia when inactivity of the liver has been the factor in the case. Also jaundice, with intense itching dry skin, where probably the gall duct has been partially obstructed, and the biliary glands congested. It is a favorite remedy with me in such cases.

Terebinth, in 5-drop doses on brown sugar, has apparently saved more than one life for me in hæmorrhage of the bowels in typhoid fever. Blood dark, grumous and offensive; undoubted ulceration on the verge of perforation; a dose after each hæmorrhage. Hæmorrhage from the kidneys in post scarlatinal Bright's. I find it a most excellent remedy in some cases of chronic gonorrhœa or gleet.

THE HOMŒOPATHIC USES OF CINA.

CHARLES MOHR, M.D., PHILADELPHIA.

For centuries the flower-heads of the Aleppo or Levant artemisia contra, introduced by the Crusaders, was used only for the expulsion of the lumbrici of children, and became commonly known as wormseed. The doses were large, becoming smaller as its effects were better understood. From sixty- to ten-grain doses were those ordinarily employed, until after the discovery of the proximate principle, santonin, which almost entirely displaced the use of the flower-heads, in doses of from one-half to two grains. Both cina and santonin, in the larger doses, proved dangerous, and even fatal, so that latterly the active principle was administered more carefully; and, on account of its not being readily dissolved in the juices of the stomach and intestines, some portion of the drug was expelled by the administration of castor oil or a saline purge. It remained for Hahnemann, in 1829, to place cina before the medical profession in its proper connections; and after the study of its effects as it had been theretofore employed, and especially after a careful proving, he was prepared to say, "This vegetable substance has much more valuable properties, which may be inferred from the subjoined characteristic morbid symptoms produced by it in the healthy." As is the case with every drug proven by Hahnemann, the study of the pathogenesis of cina will well repay the practitioner; and, if its administration is in accordance with the rules of homœopathy, multitudes of patients will experience the beneficial effects of this agent.

Even by homœopathic practitioners cina and santonin are looked upon merely as destroyers of worms, especially of the round variety, and for this purpose too large doses are yet given; and, worse than all, the active principle is given without the precaution taken by the old-school practitioner when he prescribes it.

It certainly is a fact that the vast majority of the cases cured

by cina are found in children who have worms, either of the round variety (lumbricoides) or the thread variety (ascarides), although Farrington, in his *Clinical Materia Medica*, is made to say that for the latter cina is no good. It really matters little, however, whether worms are present, have been present, or have never been present, to constitute cina a homœopathic remedy, if the symptoms of the sick to whom it is administered correspond to the symptoms of the pathogenesis as given in the *Materia Medica Pura* of Hahnemann. I have verified this in hundreds of cases, as did also practitioners of homœopathy like Hering, Lippe, Guernsey, Raue, Dunham and Farrington.

I will briefly allude to the classes of cases curable by cina, and thus hope to lead to its successful employment by those of our colleagues who know only of its virtues as an anthelmintic.

First, the cachectic. Children, and even adults, who may have had worms or intermittent fever, who invariably complain of pains in the belly, whose abdominal organs are deranged functionally, and who suffer nervously, as do those whose intestines are actually infested with worms.

Second, the anæmic. Children (and adults, again,) who have suffered from indigestion and non-assimilation of food, or have become anæmic from some acute illness, especially when they suffer much with headache, vertigo, and neuralgia.

Now, in these two classes we will find many patients who have specialized diseases of the visual, nervous, respiratory, digestive and sexual systems, and I may profitably mention some with the leading characteristics calling for the administration of cina 1x to 60x.

Asthenopia as a result of masturbation or onanism, when reading by artificial light is next to impossible; the eyes feel as if veiled, requiring constant wiping, and sometimes violent rubbing to relieve the veiling.

Strabismus of the spasmodic variety, always induced from some abdominal irritation.

Prosopalgia, involving the supra- and infra-orbital nerves and facial distribution over the zygoma, and sometimes extending to the infra-maxillary region. The pains are pressing, screwing and excruciating, with much cutaneous hyperæsthesia.

Chorea, especially in girls who are neuralgic and hypersensitive. The neuralgic pains are fugitive, pass quickly from one part to another, are readily produced by pressure, and, when not so produced, made much worse by pressure.

Convulsions, when the sensorium is non-participative—even in epileptiform spasms there is no unconsciousness.

Pertussis, or spasmodic *coughs*, when the paroxysms are long, face almost always remaining pale, although the child fairly bites at air for breath, and cause tears to stream from the eyes. Pain in upper chest, especially under the sternum, when coughing, and after slight expectoration of mucus leaving a sore spot, with burning, as if something had been torn away.

Asthma of the spasmodic variety, especially induced from indulging in food that deranges the stomach, and particularly the intestinal digestion. Breathing is very difficult; respirations are loud, short, with occasional interruptions. Sensation as if the sternum lies too close to the back, and so embarrasses the breathing, and causes anxiety and sweat.

In respiratory affections it may be remarked that there is little catarrh, little inflammation, but much nervous excitement, involving the whole cerebro-spinal system.

Gastralgia and *enteralgia*, especially when there is much epigastric pain and qualmishness on awaking in the morning, before meals, relieved by taking food, and, soon after eating, canine hunger. Much flatulent colic without diarrhœa. Pinching and cutting in umbilical region. Mouth is dry; there is thirst, but inability to swallow well, and audible gurgling present when swallowing fluids. Face is very pale, and there is so much itching of the nose that boring with the finger until it bleeds and grinding of the teeth are frequent symptoms.

Enuresis, especially in nervous boys who have studied too hard or done too much reading, and who may masturbate from itching of genitalia.

Amenorrhœa in young girls who are prone to read much, suffer with asthenopia, have dark rings under eyes, eat sweets enough to derange digestion, and may masturbate from itching at anus and vulva.

Fevers include scarlatina, intermittent and remittent. The

face is pale—even so in scarlet fever. Dark rings encircle the eyes; pupils are dilated. Convulsions may be present, and patients constantly grind teeth, bore in nose, are restless, and during sleep frequently cry out aloud, as if affrighted. In intermittent forms of fever vomiting is often present; there is canine hunger after vomiting, and hunger again shortly after taking food; thirst during chill, which recurs daily at same hour.

In conclusion, I may remark that after *aconite* in nervous phenomena accompanying colds, after *digitalis* and *belladonna* in asthenopia, after *drosera* and *antimonium tartaricum* in respiratory affections, after *antimonium crudum* and *cuprum* in gastric and intestinal derangements, *cina* should always be considered, if medicinal treatment is necessary after these drugs have been used.

DISCUSSION.

Dr. D. S. Kistler: The doctor has brought out an important fact, that in the cure brought about in the particular cases he mentions he advises the administration of the lower potencies. The clinching symptom seemed to manifest itself between the paroxysms. I think that we can often gain most decided indications by prescribing between the paroxysms. It is so in ovarian troubles, migraine, asthma, and nearly all similar affections, by prescribing for the symptoms between the attacks.

Dr. B. F. Betts: I wish, Mr. President, to refer particularly to the efficacy of this drug in chorea. I recall to mind a case I treated some two or three years ago, in which the manifestations of the disease were that the child could not sleep at night, and was very liable to injure itself, and had been treated for a long time by allopathic medication. The child was rather anæmic and pale, with that peculiar irritability of temper that is so characteristic of the drug and disposition, and quite restless, with gritting of the teeth and a tendency to nasal irritability. With these three symptoms to indicate the drug, of course the suggestion came to me to give the thirtieth potency, and the result was marked. I do not find in my experience that it makes very much difference, in the results obtained, whether we use the third or thirtieth. I think it is a drug efficacious even in the high potencies.

REPORT OF THE SECTION OF OBSTETRICS.

A BIOGRAPHICAL SKETCH OF IGNAZ PHILIPP SEMMELWEIS, COMMEMORATING THE FIFTIETH ANNIVERSARY OF THE INTRODUCTION OF THE ANTISEPTIC METHOD.

THEODORE J. GRAMM, M.D., PHILADELPHIA.

"He who ascends to mountain tops shall find
The loftiest peaks most wrapt in clouds and snow;
He who surpasses and subdues mankind
Must look down on the hate of those below.
Though high *above* the sun of glory glow
And far *beneath* the earth and ocean spread,
Round him are icy rocks, and loudly blow
Contending tempests on his naked head,
And thus reward the toils which to those summits led."
—*Childe Harold*, Canto iii–xiv.

In considering the subject of obstetrics in the year 1897 a Society report would scarcely be complete without a suitable reference to the fact that this year marks the fiftieth anniversary of the introduction of the antiseptic method in obstetric practice. It is a remarkable fact that in the literature of obstetrics in America the events which led to that great discovery and the interesting circumstances connected with its early history have never received the notice which they merit. Many a course of lectures has been delivered here without adequate notice of the events which led to the introduction of the antiseptic method in obstetrics, so that they are perhaps not matters of common knowledge, neither is the name of him commonly known to whom so great honor is due. The belief that

this subject might be of somewhat more than passing interest, in addition to the verification of that belief which I beheld with pleasure in the pronounced interest which this subject awakened in the course of my lectures to the classes of the Hahnemann College during the last two years, has led me to draw your attention to the subject to-day. We, unfortunately, hear, with greater frequency than should be, physicians saying that they believe, or do not believe, in the antiseptic method in obstetrics, apparently unmindful that this matter is entirely beyond the domain of belief or mere opinion, but rests upon innumerable series of demonstrations which have been made with almost mathematical accuracy. Last year I pointed out to this Society some of the facts which have led many to view the application of the antiseptic method in obstetrics as an imperative necessity. To-day I wish to commemorate the fiftieth anniversary of the introduction of that method, and to honor the memory of the man to whom the human race is so greatly indebted, who received but scant encouragement in his lifetime, and to whom posterity has accorded a tardy recognition. There are doubtless but few physicians who are not familiar with the names of Pasteur and Lister, as associated with the antiseptic method, but how many know to what position the labors of Ignaz Philipp Semmelweis entitle him in the history of this method? Yet it is a fact that the value of the antiseptic method was first demonstrated in obstetric practice.

There is no better way of impressing upon the mind the value of a great discovery than by reviewing the circumstances which led to it, for they must have spoken most eloquently to have unerringly pointed out a new principle. In the case of Semmelweis, his views were attained as a logical deduction from previously demonstrated premises. These premises consisted in the tragedies with which many a young life terminated at the early dawn of motherhood—the application of aseptic methods attained by the use of antiseptic means—and, as a result, a diminished death-rate, which was far less than that ever known in the history of midwifery since the world began. This suggested a new principle—a principle capable of demonstration, of repeated verification; a principle which must be

correct, which we know is correct! Shall we now see how this new idea was received? Would it not be delightful could we recount that this great discovery was universally accepted, and that countless blessings flowed into many homes, while the great discoverer received, in a measure, at least, the honorable consideration to which his labors justly entitled him? Alas for the perversity of the human heart and mind! History has repeated itself. The benefactor is reviled, his work belittled, his results denied, his passionate appeal to repeat to verify scorned. He had spoken, he had discovered contrary to the accepted opinions of the day. He was accorded but scant courtesy at the hands of those in office. He was not even given the ordinary privileges of his position. He was driven from the scenes of his labors, and in bitterness of heart was compelled to return to his home. Semmelweis was a great benefactor, and lived and labored beyond his times. Thus have men ever requited their benefactors. The life and labors of this man have a mournful interest, and he had an almost tragic end.

If we look into the history of obstetrics, we are confronted by the fact that from earliest times the angel of death hovered over the couch of every puerperal woman and claimed many an untimely victim; that every woman performing the highest function of animal life, when she had given birth to her child found herself in a condition attended by a mortality as great almost as that which followed in the train of some of the worst scourges which have afflicted the human race. All along the line of physicians who have left their imprint upon the historic page from Hippocrates down, do we find that they recognized this merciless disease, which has attacked women when the ties of love most gather about them. Puerperal fever was familiar to all the older writers, and they described it sometimes in obscure terms, or again with lucid details not to be mistaken. After the institution of maternities we find that here the disease held its horrible revels. It was peculiarly the scourge of lying-in hospitals. In a number of instances the entire abolishment of maternities was earnestly advocated, on this account. From the first recorded epidemic which occurred in Paris in

the Hôtel-Dieu in the winter of 1664,* the mortality in lying-in hospitals has been properly characterized as frightful. In an epidemic there in 1746, it is recorded that of twenty women confined in February, only one recovered. So on down the gruesome list of epidemics† which have been recorded, much the same high mortality occurred. The details of these epidemics would be almost wearisome did they deal with less tragic events. With these facts Semmelweiss was familiar, and he had abundant opportunity for studying the disease, both clinically and in the dead house.

At the time Semmelweis studied medicine, the views of the etiology of puerperal fever were in a singularly chaotic state. Hegar‡ says they can only be formulated with difficulty because of their divergence, but he has given a resume. Perhaps a sufficient reflection of current opinion may be obtained from Litzmann, who begins his classical work as follows: "Puerperal fever is a miasmatic contagious disease peculiar to puerperæ depending upon a specific alteration of the blood, which reveals itself either through corresponding inflammations in various organs, especially those concerned in birth and the puerperal period, or more rarely without these, through intense disturbances of the functions of the nervous system. The manifold forms of this disease may be traced essentially to deviations in reference to the site of the local affection and the character of the disease; both are determined less through individual circumstances than by epidemic influences," etc. In the chapter on etiology this definition is further unfolded, but a careful perusal of that definition will convey a sufficient idea for our present purpose. Semmelweis shortly came into contact with a series of facts which revolutionized the entire conception of the etiology of puerperal fever. If the spirit of the times had not been against him, or had his propositions been received with the judicial bearing demanded of scientific men, or had his observations

* Litzmann, *Das Kindbettfieber*, etc., Halle, 1844, p. 131.

† Churchill, *Essays on the Puerperal Fever*, etc., Sydenham Society, London, 1849, p. 30; Litzmann, *l. c.*, p. 130; Hirsch, *Handbuch d. histor.-geograph Pathologie*, 2 *aufl.*, Stuttgart, 1881–1886, Bd. II.

‡ Hegar, *Semmelweis, Sein Leben u. Seine Lehre*, Freiburg, 1882. See also Bruck's monograph, *Wien u. Teschen*, 1887.

been properly repeated, and hence verified, as they would undoubtedly have been, it is absolutely certain that the brilliant results of the antiseptic method would have been with us many years ago.

Ignaz Philipp Semmelweis was born in Ofen, that portion of the present city of Budapest situated on the right bank of the Danube, on July 17, 1818. He was the fourth of eight children. His father was a merchant, and his family were in good financial circumstances, so that he was not embarrassed by any difficulties from this source. His mother's maiden name was Theresa Müller. He attended the normal school and gymnasium in his native city and received a good education, exhibiting pronounced ability, although it is said his humanistic education was somewhat neglected, and in after years he always encountered a certain difficulty in expressing himself both in his native tongue and in German. His parents intended that he should become an auditor in the army, and so in 1837 they sent him to Vienna to study law. While there he attended some lectures on anatomy with some friends, in consequence of which he developed a pronounced interest in medicine, to which he forthwith devoted his attention. In the study of medicine he spent the first year at Vienna, the second and third at Pesth, and the fourth and fifth at Vienna, where on April 4, 1844, he received his diploma.

Hegar has described him, on the authority of Hirschler, as of pleasing personality. He is said to have been modest and unassuming, of a child-like naive habit of thought, having a joyous nature, a good companion who gave himself up completely and unreservedly to the enjoyment of the hour. He was attached to his friends, and confiding where he anticipated honorable intentions and unselfish motives, but also unreservedly, even dangerously, frank and assertive when he believed to have observed a mean habit of mind, and broke off at once even with those whom he had stood near. This peculiarity, in connection with a somewhat pronounced unaffected manner of speech which was in contrast with the peculiar Pesth and Vienna hospital German, appears in certain circles and with certain people to have given offence and to have aroused op-

ponents. It is said that Rokitansky and Skoda, who knew by their teaching and personal magnetism how to inspire younger men with enthusiasm, influenced him greatly, and because of his zeal and personal qualities he became a favorite with his teachers and associates.

After completing his studies he endeavored to become assistant in Skoda's clinic. In this he failed, however, being compelled to give way to Dr. Loebl, who established a prior claim.

Winckel* has pointed out that had he succeeded he would probably not have been led to the discovery which has made his name immortal. Having failed in this endeavor, he then devoted his attention to obstetrics, and twice took the course in practical obstetrics in the clinic, after which he applied to the director, Prof. Klein, on July 1, 1844, for a position, when vacant, as assistant. This he obtained on February 26, 1846, provisionally, and finally on July 1, 1846, with, however, the reservation that he must give way to Dr. Breit in the event of the latter wishing to prolong his term of service for two years more. This actually occurred, and therefore Semmelweis was compelled to relinquish his position on the 20th of October in favor of his predecessor, Dr. Breit.

During this short period Semmelweis was profoundly impressed with certain circumstances with which he came in contact. In the I. department, where he was assistant, the mortality was greatly in excess of that in the II. department, devoted to the instruction of midwives. Parturient women in whom the stage of dilatation was somewhat prolonged, although they were healthy, robust primiparæ, died almost without exception. After deliveries in the street, in spite of the attendant detrimental conditions, the women admitted sickened but rarely. The same was true of women having premature births who had been little, or not at all, examined for the purpose of instructing the students. Women became sick in series, it is said, in adjoining beds in the I. department, while in the II. department they did not, although puerperal fever cases were

Winckel, *Münchener Medicinische Wochenschrift*, 40 Jahrg., No. 46.

not seldom placed among the others. These facts did not correspond with current etiological views. Hegar says these differences in mortality called forth the most diverse explanations. Deleterious influences affecting the I. department were repeatedly sought for. Mental impressions, fear, injured modesty, rough examinations, differences in nursing, in the conduct of labor, defective ventilation, mixing of the laundry with that from other patients, the locality, and so forth, had been considered. But identical conditions were found in both clinics, and in some respects they were rather in favor of the I. department. Semmelweis finally came to the conclusion that an endemic cause existed, which he endeavored most earnestly to discover. It is related that the impossibility of detecting this, the torturing sense of having such bad results in spite of the conscientious discharge of duty, and the disrespect with which the other attendants treated him—they referred to him as the *todenvögel*, the omen of death, or the *banshee* as the Scotch would say—developed in him a melancholy state of mind. Winckel relates, quoting the account of Semmelweis himself, that his department was in such ill-repute that pregnant women were afraid to seek admittance, and those who had unexpectedly been assigned to the I. department "begged on their knees and wringing their hands that they be discharged." The mortality was 11.4 per cent.; while in the II. department for midwives, it was only 2.7 per cent.

In the winter of 1846–7 Semmelweis intended to visit Dublin, and for that purpose diligently studied English, but in the meanwhile he received a definite appointment as assistant in the maternity to date from March 20, 1847, since Breit had been called to Tübingen as professor of obstetrics. Before assuming his duties here Semmelweis took a pleasure trip to Venice, for the purpose of recuperating from the dreadful experience in the maternity.

Concerning his discovery of the etiology of puerperal fever, Semmelweis says: "On March 20, 1847, a few hours after my return to Vienna, I assumed, with rejuvenated spirits, the position of assistant in the I. department of the maternity clinic; but shortly I was overwhelmed with the sad news that Pro-

fessor Kolletschka, whom I highly esteemed, had meanwhile died. He had been injured on his finger by a student during a post-mortem examination, and in consequence suffered from double pleuritis, pericarditis, peritonitis, meningitis, and a few days before his death he even had a metastasis to the eye. Yet inspired by the artistic works of Venice, and excited still more by the news of Kolletschka's death, there was forced upon me, in the excited condition of my mind, with irresistible clearness, the identity of the disease from which Kolletschka died with that from which hundreds of puerperæ succumbed. In the case of Kolletschka the active causes were cadaveric substances which had been introduced into his circulation. I was compelled to propound the question: 'Are cadaveric substances brought into the circulation of the individuals whom I saw die from an identical disease?' This question I was compelled to answer affirmatively, since in the anatomical tendency of the Vienna school, professors, assistants and students had frequent opportunity to come into contact with cadavers, and the cadaveric smell, which remains so long on the hands, demonstrated that by the ordinary means of washing the hands with soap these cadaveric substances were not entirely removed. In order to destroy these, I used, in the middle of May, 1847, at first chlorine water, and later the much cheaper chlorinated lime, with which, besides myself, every student was compelled to wash the hands before an examination. While, in the month of May, 1847, during the second half of which the chlorine-washing was introduced, 12 per cent. of puerperal women died, the mortality fell to 3 per cent. in the next seven months, and amounted in the year 1848, during which entire year the chlorine-washing was carried out, to only 1.27 per cent., *i.e.*, 45 of 3556 puerperæ delivered."

The views of Semmelweis, according to which puerperal fever was due to cadaveric substances, were modified to include other decomposing substances as early as the fall of 1847, because a number of cases of infection arose with fatal results after examining a case of cancer of the uterus, and likewise after nursing a puerperal woman affected with caries of the knee, in the same room with other puerperæ. This led Semmel-

weis to the idea that infection might possibly take place through the air, and likewise from direct contact with puerperal women who were suffering from different other diseases.

Semmelweis, in conjunction with his friend, Dr. Lautner, Rokitansky's assistant, endeavored to support his views by experiments on animals, and made nine attempts with rabbits, which he succeeded in infecting with endometritic discharges from cases of puerperal fever, and with putrid fluids from other diseases, and produced similar pyœmic manifestations. These experiments were reported by Brücke and Semmelweis, with but doubtful results, which of course comparative anatomy explains. It would be of interest to follow with further detail the observations of Semmelweis and the deductions which influenced his mind in the evolution of his highly important subject of this etiology of puerperal fever, but time will not allow. We are, however, confronted with the evidence that Semmelweis realized the essential causes of puerperal fever to the fullest extent which the condition of medical science at that time permitted. It has been pointed out that he used a peculiarly fortunate time in designating its essential cause as the introduction of decomposed animal substances (*zersetzte thierisch-organische stoffe*), and he was but a single step removed from stating its bacterial origin, since the veil had not been lifted beyond which lay the vista of etiological causes which has been so satisfactorily illuminated by bacteriology.

The discovery of Semmelweis was first published in two articles by Hebra, in 1847–48, in the *Zeitschrift der Gessellshaft der Aertze zu Wien.** He compared it with that of Jenner, and invited the attention of directors of maternities to it. Routh, who was studying in Vienna at the time, was favorably impressed and published an article in England. Skoda fully accepted the new theory, and wrote a comprehensive exposition of it in 1849 for the Akademie der Wissenchaften, in Vienna. This academy authorized Brücke to repeat with Semmelweis the experiments on animals above referred to. Rokitansky and Haller were favorably inclined.

* For references to this paragraph see Zweifel, *Eroffnungrede der VII. Congress der deutsch. Gesellsch. f. Gyn.*, in Leipsic, June 9, 1897.

Michaeles was informed of the teachings of Semmelweis by the scholar, Schwarz, who was then studying in Vienna, and became convinced of their correctness. Dr. Stendrichs wrote to Tilanus in Amsterdam, and Dr. Brücke wrote to Professor Schmidt in Berlin. Arneth aided in disseminating the new views in Vienna, Paris and in England. Simpson, in Edinburgh, altogether misapprehended the subject. In reply, he denounced German obstetric methods, and thought that Semmelweis had taught nothing new. In the spring of 1850, at the Gesellschaft der Aerzte zu Wien, Semmelweis read a paper, in the discussion of which the views were most diverse. Zipfl and Lumpe spoke against him, while Chiari, Helen, Arneth and Rokitansky favored him. Other opponents at this time were found in Kiwisch, whose opposition was weighty, since he was a leader in obstetrics and gynæcology, in addition to Scanzoni and Seyfert. Semmelweis did not at first find friends among the other assistants at the clinic, and especially not in his chief, Prof. Klein. The latter permitted his judgment to be so far beclouded by jealousy that he altogether failed to recognize the scientific and practical importance of the discovery which had been made in his service, and thus he lost the opportunity of his life. We can imagine the proud position which he might have obtained for himself had he acted in conjunction with Semmelweis, or, if you please, had he invited Semmelweis to act in conjunction with him in his investigations. But then Klein is recorded by Brücke as being "intellectually impotent and antiquated, on the one hand, and, on the other, characterized by an envious belittling of the attainments of others." He envied the general attention which his assistant began to attract, and the consideration bestowed upon him by the medical faculty when they entertained the proposition of Skoda to investigate the subject of puerperal fever. Klein and the members of his clique professed to take the discussion of the hospital reports as a denunciation of his methods, and even went so far as to enter a protest with the government, in consequence of which the scientific discussion of the question was prevented. Another reason, as suggested by Zweifel, why the teachings of Semmelweis did not find a

more ready acceptance resided in the fact that they endangered the current method of teaching obstetrics by manipulation on the cadaver; besides, they contained an unintentional imputation of guilt, and therefore other explanations were sought for to explain the origin of puerperal fever.

On the 20th of March, 1849, the appointment of Semmelweis terminated. It was the rule to permit an extension of two years' time, did the incumbent request it. This extension had been granted Breit and other predecessors of Semmelweis. When, however, he requested this extension of time, it was refused. He then endeavored to become *privat-docent*, and only after repeated petitioning, and after eight months of delay, he was finally named, among others, as *privat-docent* of theoretic obstetrics, with the restriction to demonstrations and practice on the manikin! This was a manifest intention to awaken distrust in Semmelweis. Fortunately, however, he would not submit to such limitations, and seeing that every possible obstacle would be thrown in his way, he suddenly left Vienna, in October, 1850, and returned to Pesth, and located there as a general practitioner.

On May 20, 1851, he became chief of the obstetrical department of St. Rochus Hospital, which position he filled until July, 1856. Shortly after his appointment he demonstrated that the unfavorable condition of puerperæ was attributable to the fact that the assistants frequently came into contact with wounds, and made post-mortem examinations. In 1855 Semmelweis became Professor of Obstetrics in the University of Pesth, and Director of the Obstetric Clinic. In 1857 he married the daughter of a merchant named Weidenhofer, who bore him three children. The events in the life of Semmelweis in Pesth are highly interesting. They reveal him struggling against ignorance and prejudice. He was compelled again to surmount the difficulties attendant upon assistants engaged in post-mortem examinations and dressing the wounds of an ordinary surgical clinic, and other unhygienic circumstances.

In his endeavors to effect the necessary alterations in the hospital management he encountered many obstacles. He was

greatly embarrassed and provoked by the difficulty in obtaining even the necessary cleanliness of the bedclothing and linen used for parturient women. On one occasion we find him presenting the government director with an odorous evidence of the *alleged clean* linens in use, and finally, in disgust, purchasing a new supply on his own account in order to have them clean.

For a number of years he refrained from propagating his views by literary efforts. His biographers have found this singular, and have suggested that he might still have written about his own favorable results, even if it had been interdicted to discuss other unfavorable hospital reports. We can readily apprehend his mental attitude, however. Personally he was thoroughly convinced of the correctness of his views. He had demonstrated that in Vienna. A few other clinicians had done the same. In various medical societies he had frequently discussed them, and, as he himself says, he believed he could leave it to time to establish the correctness of his views. Thus a number of years passed, and now, finding disappointment in this belief, he was induced by his friend, Hirscher, and his former room-mate at Vienna, Markusowsky, the editor of the *Orvosi Hetilap*, to publish a series of articles between 1858 and 1860. In 1861 he published his great work, *Die Ætiologie, der Begriff und die Prophylaxis des Kindbettfiebers*, Pest, Wien und Leipzig, Hartleben, a review of which cannot be entered upon at present.

The reception given this book was various. Lange, in Heidelberg, and Kugelmann, in Hanover, declared unreservedly for the new doctrine, and corresponded with Semmelweis to that effect. These communications pleased him greatly. Winckel says that, unfortunately, Semmelweis did not learn that other clinicians were investigating his propositions, and bewails the fact that he did not send a word of encouragement to Semmelweis at the time, for in 1861–62 he himself began in part to follow the teachings of Semmelweis, and with remarkably good results. In 1864, however, Winckel published a paper, and recited a series of cases wherein he demonstrated the correctness of the views of Semmelweis, and which was re-

published entire in the first edition of his *Pathologie und Therapie des Wochenbetts.* Winckel claims to have been the first German clinician who determined the origin of some infected cases, and definitely discovered the carrier of the infection in the person of an assistant. Veit also became an adherent to the new doctrine, and Hirsch, in his *Handbuch*, gave Semmelweis an acknowledgment.

The younger physicians of the day gradually became his adherents, while those of more mature years only extended to him a meagre acknowledgment. Among those still opposed to Semmelweis are found the names of Hecker, Siebold, Spiegelberg, Virchow, Scanzoni, Seyfert and Kiwisch, to whom Semmelweis replied. The opposition of these men, whom we recognize to have been leaders in their day, did much to counteract the benign influence of the teaching of Semmelweis, and deferred to a later day the general adoption of his views.

Not having received the recognition to which this publication was entitled, Semmelweis wrote some open letters addressed to professors of obstetrics. One is entitled, "Zwei Offene Briefe an Dr. J. Spaeth und an Hofrath Dr. F. W. Scanzoni," Pesth, 1861; and another, "Offener Brief an Sämmtliche Professoren der Geburtshilfe," Ofen, 1862. Lack of space at present altogether prevents a review of these interesting papers. They contain some striking statements. For instance, there is a startling calculation that in the ten years following 1847, 1924 women died at the Vienna Maternity alone from a *preventable* disease. Again he says: "The greatest merit of my teaching is that it indicates the certain means of preventing this misfortune." Although contrary to my present purpose, the temptation is great to abstract from the second letter, for it abounds with the clearest controversies of false etiological and pathological theories entertained at that time. We of to-day can appreciate the splendid lucidity of his appreciation of the etiology when he says: "The prime axiom is: introduce no decomposing animal substance from without into the organism, and remove such substances which are generated in the system," p. 3. For the purpose of disseminating his views, for incessantly the evidence returned to Semmelweis

that he was misunderstood and misrepresented, he personally sent his book to several learned societies, and, in addition, in order to invite discussion in England, he also presented a copy to Routh, Webster, Copeland, Simpson and Murphy.

Perhaps the last articles Semmelweis wrote in defense of his teachings appeared in the *Orvosi Hetilap*, 1863, in which he reviews and comments upon an article on puerperal fever which was read before the St. Petersburg Medical Society. This article and the debate following it revealed to Semmelweis that his teachings had made a somewhat unexpected progress in the north, and he was glad to learn that Russian midwives were strictly enjoined to use antiseptic precautions.

After this he allowed his friend Markusovszky to continue the contest, but he himself abandoned the conflict which had brought him so much discouragement.

Semmelweis now turned to the development of gynæcology, to which he had long inclined, and had a few beds reserved in his clinic for gynæcological cases. In the treatment of diseases of women he applied the same antiseptic precautions which he had advocated for use in obstetric practice. He constantly strove for clean hands and clean instruments in operating, and already in his great work had pointed out that he did not often lose patients operated for uterine polyp, as so frequently happened to others at that time, because, as he said, he operated with clean hands.

His qualifications for gynæcological practice were such as it were well if some of the present day possessed—namely, a knowledge of pathology and pathological anatomy of the female generative organs.

During his service in the hospital at Vienna he daily attended the necropsies before the morning visit of the professor to the maternity, in order to study the pathological conditions found in the women who had died, and this he continued for six years until he went to Budapest. In this manner he enjoyed most remarkable opportunities for studying pathological anatomy. In addition, it is said he frequently endeavored by palpation to make a diagnosis before the section, and thus developed a sense of touch which became remarkably reliable and

stood him in good service when, later, in Pesth, he had an opportunity to practice his diagnostic skill. On June 22, 1863, he performed an ovariotomy in his clinic, which was the first performed in Hungary. In the domain of gynæcology, the activity of Semmelweis is further revealed in some articles which he wrote on "The New and Old Theories of Menstruation;" "Menstruation and its Anomalies;" "The Operative Treatment of Ovarian Cysts," and other articles in which he displayed a comprehensive knowledge of gynæcological literature in addition to his personal experience.

During the previous fifteen years in which Semmelweis contended for the adoption of his *life-saving* discovery—and the full import of that word we of to-day can appreciate—he had witnessed but few results from his masterly expositions on many occasions. He had diligently contended for the truth that was in him solely for its scientific and humanitarian worth. First we see him giving a most lucid exposition of his discoveries upon which absolutely logical deductions were based, and which therefore should have led to radical changes in procedure. Then he is pleading for the truth as he did with Scanzoni—and again, exasperated beyond all endurance, he unfortunately raises his voice to denounce, which we deplore but yet must pardon. He beheld an indifference on the part of obstetricians which to him appeared criminal. He knew of alleged investigations of his teachings which were altogether perfunctory, and were made with the manifest purpose not of determining their truth, but of denying it. It may be blandly said that Semmelweis did not know human nature, which may be true, for to his upright mind it was incomprehensible how anyone could be indifferent where human life, at its best time, was at stake. The disheartening experiences of the previous years were not without their influence upon his mind. The irritability which he manifested at times, the ill-advised expressions and frequent repetitions in his later writings, the loss of memory and seasons of depression followed by enthusiasm for his convictions, were unfortunately the precursors of the disenthronement of a magnificent intellect. We find him in 1865 removed to an asylum in Vienna, where he died on August 13, 1865.

The cause of death was not the nervous affection from which he suffered, but was brought about in consequence of septic infection resulting from a panaritium on the middle finger of the right hand following an operation on a new-born child. An abscess formed beneath the pectoral muscles which perforated the pleura and developed a pyo-pneumothorax. In addition to this, the necropsy revealed a chronic hydrocephalus.

He was buried from the Vienna General Hospital, on August 16, 1865, in the Schmelzer-Friedhof in Vienna. In April, 1891, his remains were removed to the family vault in Pesth, and on the 21st of April, 1894, they were finally interred in an "ehrengrab" of the city of Budapest, in the Kerepeser Friedhof. A monument has since been erected to his memory, at the unveiling of which, among others, there were present the widow, two daughters of his three children, a grandson and a brother of Semmelweis.*

This, then, is an imperfect sketch of the life and labors of Semmelweis. It has not been my endeavor to write a eulogy, and possibly in terms which might be thought extravagant to praise his works. An attempt to define the position in the scientific world to which his labors entitled him must be left for another occasion. For the present, a recitation of some of the incidents of his life must indicate far more certainly and clearly than eloquent words ever can, the fact that Semmelweis must be classed among the greatest benefactors of mankind, the acceptance of whose lucid teachings has caused countless blessings to flow into many homes, and whose discoveries antedated by a number of years the works of those whose names we are accustomed to associate with the antiseptic method.

A FEW THOUGHTS ON THE SURGICAL PHASE OF OBSTETRICS.

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Since the determination of the causes of puerperal fever, and the adoption of the term "puerperal septicæmia" to replace

* Zweifel, *loc. cit.*, p. 26.

that of the older and indefinite terminology, obstetrics has been lifted out of the haphazard position it once occupied and placed on a plane more in keeping with its importance.

A short time ago I delivered a woman whose labor was prolonged and difficult. The nurse attending her was one of the old-time "monthly nurses," and she had never witnessed a confinement conducted in accordance with the present advanced principles of obstetrics. It was interesting to watch the play of the old nurse's features, and hear her verbal expressions of wonderment, at the "way a woman is delivered nowadays."

Two decades have made many and great changes in obstetrics, and it is no wonder that the kindly old nurse, whose services have been rendered beyond the outskirts of medical and surgical advance, should marvel at the change. Her pot of lard and pad of old quilt have clung to her as relics of the long ago; and she knows nothing of green soap, of hand-brush, of permanganate of potassium and oxalic acid, of creolin, of corrosive sublimate, of a Kelly pad, of absorbent cotton and sterilized dressings, of axis-traction forceps, of ether, of glass catheter, of needles and catgut, and of a large number and variety of other things necessary to complete the outfit of a modern obstetrician. She probably has heard of the trained nurse, but has not become acquainted with her nor with her methods. She believes her to be a newfangled invention of the new doctor who she thinks has gone daft on the question. But the trained nurse is typical of the changes wrought for the better in all departments of medicine, particularly of surgery in all of its many departments.

The present age is becoming appreciative of this change, and gradually the barriers which for a long time separated the old from the new are falling, and opposition to the adoption of the best in the alleviation of human distress is ceasing before the daily demonstration of the superiority of present methods over those of the past.

Young men go out from our medical colleges, and young women from our training-schools for nurses, imbued with the teachings of those whose duty it is to be in touch with every modern advance in obstetrics; and they carry these teachings

into the communities where they settle, and thus help to break down prejudice and create a demand for the modern obstetrician and trained nurse, and incidentally for modern obstetrics.

As those of us who have witnessed the past fifteen or twenty years of this process of development in the art and science of obstetrics, go back in memory to the methods of the initial end of that period, we naturally make the comparison between the *then* and the *now* with a shudder at the crudities of our early practice, but with heartfelt gratitude that we have lived to witness the present state of obstetrical attainment, and to take part in its achievements.

One feature of this development impressing itself forcibly on our minds, has been the close affinity gradually assuming between obstetrics and surgery; and even now, so intimate is this relationship that it will not be wondered at if the future relegates obstetrics entirely to surgery, just as appears to be the drift respecting gynæcology.

I believe that if we can divorce ourselves from the idea that the delivery of a woman in labor is entirely physiological, and become impressed with the thought that an element of traumatism almost invariably attends a case of childbirth, and that in many of its phases obstetrics is eminently surgical, we will be in a favorable frame of mind to comprehend more fully the nature of the problems obstetrics offers for study and solution.

Perhaps, as originally designed, the pregnant woman should extrude her fœtus just as easily, and with as much freedom from trauma either to her or it, as she performs the acts of defecation and micturition. Indeed, in a large sense these three functions of defecation, micturition and childbirth are analogous, in that each is performed by an organ presided over by muscular action exercising its potential at the close of a certain fairly well-defined period of time. Each of these three acts, when ideally performed, simply exercises the normal function in a normal manner, which normal performance is followed by the subsidence of the tissues to a condition of rest, without injury or impairment having happened to their integrity.

In the general disagreement between the *intended* and the *actual* in nature, woman has not arrived at that perfect state

which permits her to invariably pass, without detriment to her or to her fœtus, through those phases of her existence which, evidently, it was intended should be purely and simply physiological acts, but which fate has ordained shall frequently be otherwise.

Thus, even defecation is occasionally a departure from the normal, and the act is accompanied with traumatism. And so it is with micturition; while generally easily and harmlessly performed, there are instances of injury resulting to bladder or urethra by an abnormal performance of the function. These are instances of a want of normality in an intended normal function, and are mentioned to parallel the statement that analogous interferences with normal childbirth take place all too frequently, and in considerable variety. The recognition of this traumatic element is a distinguishing feature of modern obstetrics, and the obstetrician may well be valued according to his power of discernment and his methods of practice in this respect.

No doubt many physicians are known to members of this Society who would refuse to remove a cyst of the vulva, a protruding uterine polypus or a caruncle of the urinary meatus, choosing to hand these cases over to the surgeon, and yet who would have no hesitation in attending an accouchement in spite of its intensely surgical character. It need hardly be argued that the more surgical the obstetrical attendant—that is, the better informed and the more skilled he is surgically—the better fitted he is to conduct a childbirth to a successful termination.

It is unfortunate that in so many instances the pregnant woman places herself in the care of the medical man whose surgical training and skill are at a minimum, and who often tacks obstetrics on to his practice as a commercial necessity. The greater number of general practitioners recognize this, and often wish that matters were so arranged that they could transfer this class of cases over to the specialist; but they are deterred from adopting such a praiseworthy plan because of financial reasons not altogether to be despised in these times, and they go on performing services for which they are confessedly insufficiently qualified.

To bring to obstetrics the application of the surgical sense in the fullest sense of the word and completeness of the act, is not given to all who essay the rôle, but there are certain surgical principles, fortunately taught by our obstetrical teachers and exemplified in their practice, that can be projected into the method of the ordinary practitioner, if he will but make the effort to study and apply them. By reason, however, of his want of surgical experience, and of the natural medical trend of his work, he is prone to wander away from these principles, and to become either very lax in their application or altogether wanting in them. Now and then he is brought face to face with the necessity for a surgical procedure in connection with an accouchement, and then he realizes the force of what is here stated, and is filled with regret that he must transfer the case to another more competent to render the required service.

Though it is here urged that, within certain limits at least, the obstetrician should be a surgeon, he must not permit himself to lapse into the error that entraps so many surgeons, of refusing to recognize and utilize the great principles underlying the practice of general medicine. The medical man need not be a surgeon, but the surgeon should always be a medical adept, so that his surgery, while possibly of the heroic, may also be conservative when necessary.

Gynæcology owes much of its wealth of material to faulty obstetrics, and faulty obstetrics to deficient surgical knowledge and skill on the part of the average obstetrician. If this thought can be made axiomatic with the profession and can be appreciated by the laity, obstetrics will be uplifted to the exalted plane justified of it.

How shall this woman be delivered in order to attain the best results? To consider her a rubber manikin and ruthlessly to extract the fœtus is not to practice the true art, nor to apply the true science of obstetrics. Nature furnishes some of the forces essential to the act, but human aid is necessary in order to assist nature, and to provide protection against misdirected natural forces and the evil tendencies of negative potentials. It is truly an art to some, perhaps an inspired gift, to so guide and assist the process of accouchement that all the tissues in play shall subsequently resume their former normal

state. The measure of the maternal *vis a natura* and the determination of its value, together with the scientific application of human interference or aid, constitutes the art of obstetrics, and to the conscientious obstetrician is a delightful study. The presentations of the fœtus, the position of the uterus, the efficiency of the muscular efforts at expulsion, the relation of fœtal with parturient canal diameters, the curve of the maternal outlet, the rigidity of cervix and perinæum—these are topics which in the relation of their exemplification fill volumes; but their mere mention serves to carry our thoughts from the simple and easy over successive grades to the complex and difficult. The mechanics of obstetrics is a long chapter, and requires not only close study but careful application, for upon it depends the integrity of the parturient parts, and hence the future health and strength of the woman.

But, no matter how skilful may be this application of the mechanical principles of obstetrics, there are certain other safeguards, methods and procedures needful of observation and practice. Of these, none is of such importance as the observance of the principles of asepsis; and it has been very truly remarked that without asepsis and antisepsis the wonderful achievements of surgery in several of its branches could never have been secured. No matter how thorough the technique of an operation, final success lies in the establishment of an impregnable bulwark between the operated tissues and disease-producing germs. It is a very simple process by which now this bulwark is erected; but how our fathers in surgery prayed for the means whereby suppuration—that great enemy to healing — could be averted! How, when child-bed fever would carry away women after women, or, if they lived, make of them life-long sufferers, did obstetricians yearn for an understanding of the disease, for a means of protection, and for a method of cure!

To-day the surgeon invades the cavities of the body with comparative impunity, and suppuration is no longer the common or usual terror; and the accoucheur now enters upon an attendance in a puerperal case quite certain of his ability to shield her from sepsis.

But the surgeon and the obstetrician do not secure these

results blindly, nor through the methods of the past, but with their eyes open to the possibilities of a lapse in method and of a non-observance of the basic surgical principle—asepsis.

There is an unfortunate element of emergency about many obstetric cases that it is impossible to altogether overcome, and which prevents the application of that surgical principle to each case for which this paper is a special plea. For this the attendant may not be directly responsible; but he is responsible for dereliction in any case whose management he has time and opportunity to direct. Our books and journals abound in chapters and articles on how this principle of asepsis can be observed, and there is no need here for its full amplification. Antisepsis is, perhaps, the best introduction to asepsis, and if properly applied to doctor, patient and nurse, makes the certainty of asepsis doubly sure. Discussion is still active as to how best to secure asepsis in obstetrics, but the observant physician will arrange his own methods.

This paper is a hint, and covers only suggestive ground, and will simply refer to a method by which the practitioner may meet some of the surgical requirements of obstetrics; and thus, even if he does no more than this over that which ordinarily has been the case with him, he will have accomplished one of the great desideratums of modern obstetrics.

Let us regard our patient as a human being, to be delivered of a fœtus in such manner as not to work harm either to her or it. This is the problem—apparently so easy to the superficial observer, but to the experienced obstetrician always a matter of serious and weighty consideration, and to the woman ever one of health or infirmity, of life or death.

The satchel of the obstetrician ought to be stocked with all the requisites of an aseptic surgery, and, thus armed, the attendant carries into the lying-in chamber the most effective foe we have to puerperal infection. Sepsis in a puerperal woman, as in an operative case, implies a lapse in method, and patient, nurse or doctor must be held responsible; but the most likely guilty one is the doctor. It is an offense to his pride to so accuse him; but let the number present of our obstetrical practitioners be counted who do more than the old nurse whose

armamentarium was no more than a piece of soap, a basin of water and a pot of lard, and how many would be found in the count?

Traumatism in childbirth is not always preventable, but asepsis has so far reduced its evil results as to very materially lessen our dread of it.

A neglected cervical tear has been responsible for an enormous amount of misery, and there are those who advocate the immediate repair of a torn cervix. There are doubtless cases of this character in which immediate suture is advisable; and, surgically considered, perhaps all cases possible of detection ought to be coaptated by suture. A torn perinæum, and the very frequent vaginal tear, have been topics of an endless number and variety of essays, and it is universally agreed that they need prompt surgical repair. The principle that any open wound ought to be closed is a good one; but there are exceptions in that class of cases in which to close up such a wound pyogenic infection might be locked up and thus be the source of septicæmia. Judgment is needed to discern between the operable and the non-operable tears after childbirth. I must confess to a belief that some of these tears are better postponed for two or three days, when the patient shall have rallied from her shock, the parts have assumed some resemblance to the normal, and proper assistance can be procured and adequate methods adopted for the necessary surgical procedure. This is a conservatism not generally referred to, nor perhaps frequently intelligently practiced; but the difficulties attending a careful immediate primary suturing of an extensive perineal laceration, particularly when associated with a ragged and distorted condition of the tissues, are sometimes too great to let us hope for success. Postponement for one, two or three days, permits us time for proper preparation, and the patient is finally the better for it.

Facility for operative work in obstetrics is a very important factor in determining "time when," and often the practitioner is obliged to postpone action by reason of a want of means, when otherwise he would be very prompt in the performance of his duty.

This would not occur so frequently if the obstetrician were more of a surgeon, or possessed the surgical instinct. If he did, he would go to every case so provided as to be able to cope with almost any phase of the obstetrical act.

Every surgical case has a post-operation period, divided into immediate and remote. So has every obstetrical case; but we sometimes lose sight of our patient as to remote effects, and regard our duty as done when the two weeks of our attendance are over. With the surgical idea imbuing us, we will be watchful of our patient after delivery up to that period when assurance is justified of her full recovery from the traumatisms of her labor. This post-obstetric watchfulness is not sufficiently appreciated by either the laity or the profession, but it is nevertheless an essential, and is an index of an obstetrician's sense of obligation to his patient.

Fortunately for womankind, she recovers from some of her traumatisms received in labor, but from a vast number she suffers a lifetime. The conscientious obstetrician will zealously avoid being a party to the causation or perpetuation of any of them, and to this end it will avail him much to adhere closely to the tenets of surgery, and to view obstetrics as one of its branches.

In order that the obstetrician shall be equipped for his work, he should go to his patient with all the requisites for securing asepsis, and with such instruments as he may need for emergency use. Much has been written on this subject, and slight reference alone to it is necessary here. The following articles can be put in compact form and crowded in a corner of the satchel:

2 or 3 hand-brushes and a nail-cleaner.

2 ozs. tr. green soap.

1 or 2 doz. antiseptic tablets of corrosive sublimate for solution.

2 oz. permanganate potassium crystals.

2 oz. oxalic acid crystals.

4 oz. creolin.

The soap found in some houses is not fit for the hands, and may not be aseptic. The tincture of green soap is very satis-

factory. With this the hands and forearms are to be scrubbed, using the hand-brush, and with the nail-cleaner the nails are to be cleansed. The hands are now to be allowed to soak in a saturated solution of permanganate of potassium, and the stain thereof removed by use of a saturated solution of oxalic acid; after which, if a sterile towel is at hand, the hands and arms are to be wiped dry. The hands can now be allowed to remain in a 1 to 1000 solution of corrosive sublimate for a few minutes and transferred to an emulsion of creolin, one-half ounce to the quart of water, and from here the necessary examinations or manipulations are made.

In the satchel should be a white coat and a pair of duck trousers, which have been made sterile, by baking in an oven if no better facility offers, and these should be put on to complete the efforts at asepsis.

In the meantime, the nurse has brought the patient to one side of the bed, with the heels on the edge, and the nates on a Kelly pad as near the edge of the bed as it is possible to place her. If the nurse is competent, she should cleanse the genitals with green soap, using sterile cotton, and invading the vagina as far as possible, and then thoroughly douche the parts with crealin emulsion from a pitcher. If the bowels have not moved within two or three hours, or the urine has not been voided, it is wise to precede the above preparations by encouraging the patient to empty both rectum and bladder, using an enema, if required, for the first. Trimming of the genital hair, if growing over the labia, is a good plan in the effort to secure asepsis. The syringe should never be used, if it is possible to get along without it.

The obstetrician now proceeds to the examination of or whatever else he has to do with his patient. From now on, his duty is to preserve the asepsis of himself and his patient, which constitutes the basic surgical principle so characteristic of modern obstetrics, as it is also of modern surgery.

Beside the instruments, pelvimeter, forceps, etc., which are peculiarly obstetrical, the satchel should contain suture and ligature material, several hæmostatic clips, scissors and needles, absorbent cotton, sterilized gauze, iodoform gauze, etc., together

with a compact sterilizing outfit for instruments. Lee furnishes sterilized needle threaded with gut in tubes which can be broken open when desired; and Lee's tanks of catgut, Fowler's tubes of gut, silk and silkworm-gut, provide sterile material which can be put in a corner of the satchel for ready use. Johnson & Johnson supply compressed sterile cotton sponges, which are very handy.

Glass catheters, an infusion apparatus, an intra-uterine double-way douching tube, shot and shot compressor, tenaculi, volcellum forceps, and tissue forceps, are a few more of the requisites of our satchel.

It all has the appearance of surgery,—the white-coated doctor, the array of basins, dressings and instruments, the uniformed or white-sheeted nurse, the patient on the bed covered with white sheet, with the Kelly pad emptying into a bucket; but this is what obstetrics has been leading up to, and it has so simplified the work that he who fits himself for it enters upon his duties decidedly more conscientiously, and is able to acquit himself more creditably in the many emergencies arising in obstetrics, than were he to adhere to old methods.

Let each practitioner who accepts a confinement case strive to master the fundamental principles of surgery, and make every possible endeavor to apply them. He will find just as much reason for so doing as in an abdominal section or a trephining.

Profitable reading on the surgery of obstetrics is furnished in the admirable work of Garrigues on this subject, and I would advise that it be also a part of the contents of the obstetric satchel, for ready reference.

DISCUSSION OF THE PAPERS OF DRS. GRAMM AND CHRISTINE.

Dr. B. F. Betts: It is gratifying that we have taken the initiative as a State Society in doing honor to Semmelweis, and it is very gratifying, too, that by the endorsement of Dr. Christine's paper we can place ourselves on record as favoring the views therein enunciated.

A close analogy between a parturient case and a surgical case I believe ought to be recognized, and I would go so far as

to urge the importance of having the preparations made for parturition with the same scrupulous care with reference to asepsis as are made prior to a surgical operation. Our nurses are so trained and skilled in the preparation of everything that pertains to surgical procedures previous to an operation that all we have to do is to tell them to go to a patient's house and prepare the room in which we are going to operate. I was astonished, the day I left Philadelphia, at the care a nurse had taken, without my instructions, to secure aseptic conditions when I was going to operate for a very trifling illness. Yet I could not censure that nurse or reprimand her for her scrupulous care, for I wanted her to get in the habit of always taking these precautions. They have not always the advantage of knowing, as the surgeon does, the nature of the operation, so if they are schooled to accuracy in every detail, it becomes a routine habit with them. So it ought to be with the obstetrician and the obstetrical nurse. I believe that the room should always be prepared for parturition with scrupulous care, and I do most emphatically urge the procuring, whenever it is possible, of a parturient bed, properly dressed, in which the patient can be confined, and as soon as possible be removed to her own couch. This all can be done in the room the patient expects to occupy for her parturition; it should be near it; but the same bed, it strikes me, is not desirable for parturition and lying-in. There are expensive beds manufactured that answer this purpose admirably; they can be tipped and turned into almost any position, so that the proper situations can be effected after parturition—the evacuation of the bowels and bladder without disturbing the patient, when it is necessary. So that by the selection of a bed, or something similar to it, our patients could be very conveniently provided with all the comforts, and then with the satisfaction of knowing afterwards they can get back in their own beds fresh and clean, which is so much more desirable than to remain in the same bed, often soiled by parturition.

Dr. Anna C. Clarke: I do wish to see a room properly prepared for obstetric work, but I do not believe that one-half of the physicians understand how it should be carried out. But

to show you how neglectful some physicians are: a first-class physician—one of the leading men of this town—went to an obstetric case sometime ago with a fish-knife in his obstetric bag, and made the remark that he had been "fishing the day before." Physicians often carry puerperal fever with themselves. They have no business to go from a case of erysipelas, or anything of that kind, to an obstetric case, as they are in the custom of doing. Dr. Van Lennep brought out a very beautiful thought last year; he wished to impress upon the physicians of the State that gentleness was the thing that made surgeons great. I wish that our laity and our people generally could come to that; it is just as important in surgical obstetrics as it is in general surgery; they have an idea that they want some one with an immense amount of strength. I doubt if there is a gynæcologist anywhere with plenty of evidence that physicians should have strength, and that they have used it. They have used it to the satisfaction of themselves, or else have used it to the satisfaction of the patient. I believe that one-half of the bad effects of obstetrics come from too much force.

Dr. J. D. Boileau: It seems rather peculiar when I look back, having practiced medicine less than eleven years, to the time when I attended college; we were taught antiseptic surgery, but then we were not taught antiseptic midwifery. We were told that on our second or third visit to lying-in women we would probably find a pulse of 100, and maybe a temperature of 100° or a little over, but not to be annoyed about that. I remember one night, while taking a course of lectures on obstetrics, there were eleven of us waiting in the parlor down-stairs, and there was a woman in labor up-stairs; one of the attending physicians had been summoned to attend the case. He went up-stairs, made an examination, and placed the patient in such a position that her back was turned toward the door, and then came down-stairs and said: "Gentlemen, this woman will probably be in labor all night. Now, you can take turns among yourselves and go up and examine, and do not go up oftener than every three-quarters of an hour." There were twelve or fifteen students, and not any were instructed that it

would be necessary, or were they even invited, to wash their hands or use ordinary cleanliness.

So short a time as eleven years ago that was the way I was taught obstetrics, yet I was taught thorough antiseptic surgery. Is it any wonder, in starting out, that one would be careless in his midwifery! Is it any wonder that cases of septic infection would develop! Is it any wonder that one should realize the great importance of antisepsis in treating these cases! I think it is my misfortune to have had two, and possibly three such cases. I do not think that through any fault of mine I will have another; but I am often impressed with the almost utter inability to practice asepsis in midwifery!

I had two cases of membranous croup in a family lately, one of which terminated fatally, and in the last case the mother was expected to be delivered in the course of a few weeks. I have done all I could by persuasion to have that bed moved. I cannot have it done. I find that in cases I treat, the bed is filthy or the carpets are dirty. Over the bed may be used a clean sheet or a Kelly pad, but that is not sufficient.

So that the theories of antisepsis in midwifery are not always so easily accomplished. It has suggested itself to me, Why could not the obstetrician or general practitioner who is practicing obstetrics have prepared a very inexpensive, portable, and easily cleansed bed that could be sent to the house in which the case is expected; a bed that can be detached and carried away; simply an iron frame, with probably a rubber cushion suspended on it? I do not think it is possible to accomplish a very high degree of antiseptic midwifery in the cases as we find them on account of the filthy condition of the bedding.

Dr. D. S. Kistler: When it comes down to actual practice, if you have a case where you can send a trained nurse a day or two before to prepare the room and put everything in antiseptic order, it is all right. But I was called in February of last year to a peculiar case, and treated a child five years old for diphtheria. There were three rooms in the house, with partitions between the rooms made of board, and pieces of paper hanging over it. The doors were communicating, and

the whole house was heated by one kitchen stove. This proved to be a malignant case of diphtheria, and the child died in the forenoon. In the afternoon the woman took sick. I was called in, and took the ordinary antiseptic precautions, and hoped that everything would turn out lovely. On examination, to my surprise and disappointment I found that the head had slipped back in the hollow of the sacrum. There was the head infected by the germs of diphtheria, and the sanitary condition was anything that could be desired. I tried instruments, and after a tedious operation I delivered the woman, and she made a very excellent recovery.

Another peculiar incident occurred to me. I was treating a family of five children who were down with scarlet fever; they all recovered. Later I was called into a case of confinement; I used the ordinary precautions, bichloride towels. But outside of that, in a great many instances, the sanitary conditions are so bad that you hate to do anything.

Dr. B. F. Betts: We must not consider the presence of diphtheria in a parturient woman's room as being devoid of danger. In this particular instance there was no lesion of the tissues of the parturient canal, and there was retention of the placenta for a little while until the uterus contracted, and, therefore, there was no open wound into which the germs of infection could permeate. Perhaps, too, the condition of the health of the woman was such as to resist the influence of such agents. No matter how much a woman may be exposed, she will resist the influence. Nevertheless, we ought not to relax our efforts to eliminate all such sources of infection.

Dr. Anna C. Clarke: May I ask one question with regard to the use of the douche after delivery? Is it customary to use an antiseptic one?

Dr. G. M. Christine: The douche should be avoided unless you are quite sure it will not carry germs into the uterus. I think that many cases of puerperal septicæmia have been produced by the injudicious use of the douche, particularly the ordinary fountain syringe that you carry around with you or find in the house. I believe it is well to have a clean reservoir, such as a clean pitcher, etc., and an ordinary tube, and have a siphon arranged.

Dr. Anna C. Clarke: Last summer, when on my vacation, I was called to a case of obstetrics, but I refused. The next day the placenta was delivered, smooth and clear. They sent for the physician, but he did not come; she seemed to be doing well. The second day the temperature came up and went down. They came to where I was staying and asked me if I would come up and see the case. I referred them to the other physician, and the other physician went up. I was called to see the case later, and found the patient with an attack of puerperal fever; there was no question about it. As it was the only case in my practice that ever occurred, and where I had not used thorough antiseptic precautions with the douche before and after delivery, I wondered what the experience of other physicians had been. The patient recovered.

Dr. G. M. Christine: You should be very careful in using the douche to have your retainer clean, and be reasonably sure that the retainer is sterile, and the tube that carries the solution from the retainer to the uterus or vagina is also sterile. You likewise should be reasonably sure that you have been careful in your aseptic measures concerning the genitalia and vagina. If you have your tube, retainer, external genitals and vagina aseptic, there is very little harm in using the douche. Otherwise, I would be disposed to say it ought not to be used, rather resorting to sterile cotton, wet with some antiseptic solution, using it as a swab.

Dr. D. S. Kistler: May I ask the members of the Society what has been their practice when they have a case of puerperal fever and a half-dozen infectious cases at the same time? Do you hand the latter cases over to other physicians?

Dr. G. M. Christine: It is a very important question. It is not necessary to hand these cases over to another doctor. Take a bath, have your hair clean, put on new clothes, and you can usually carry your cases through. Many operators have passed directly from septic cases to abdominal operations, and by proper methods of procedure have been able to conduct them successfully.

Dr. Theodore J. Gramm: I should like to say a word in regard to what this puerperal fever shall be called to characterize it properly. The tendency of the times, led by bacteriology, is

to call that *puerperal infection.* The time is coming when we will say infection from streptococcus, or infection from the common bacillus of the colon, or infection from some other micro-organisms. That is the tendency of the times. We will characterize it as puerperal infection, then—the most common term.

I would like to reply to a question asked by my friend, Dr. Clarke, in regard to the douche after delivery. We have had the pendulum swinging from doing nothing in obstetric cases—simply treating them as the hands are found at the time, probably soiled with foreign matter or from post-mortem examination. There was one who said that in all his experience—a tremendous one, by the way—he had never known that he had infected a woman, and he had come directly from post-mortems, whereas the mortality showed that it was great. The pendulum is swinging from that point to antisepsis. Disinfectants are the idea—to bring a disinfecting medium into the cavities of the body, into the wound. But, then, we find we poison our tissues, take away the recuperative power of our tissues, and from that point the pendulum is swinging around to having clean hands. In other words, my belief is, as far as I can form it, that we shall not use the post-delivery douche unless we have a pathological case. A normal case, a case which has been delivered without accident, to which infection has not been carried, is to be left alone, *i.e.*, is not to have a douche. Now, I always feel like replying to a man, when he says it is not possible to use antiseptic measures in antiseptic obstetrical practice. I think that such a statement should not be allowed to pass by in the Society. By doing so we show a lack of protection to a woman, with the means we have at our disposal. Suppose, for example, that Dr. Betts should say that it was impossible for him, in a case of abdominal section, to have used any antiseptic precautions, and the woman died. The entire medical world would condemn him. In an abdominal section you have a short wound; in an obstetric case you have no external wound if you handle your perineum properly; but when you deliver a woman you have an internal wound the size of a placenta. In addition to that, you have lacerations of

the cervix almost without exception; you have lacerations in the track of the vaginal canal; you very frequently have lacerations of the perinæum, and that is a case you are willing to treat, and say you had no opportunity to take antiseptic precautions.

When you look this matter in the face you will change your views. I became interested in puerperal fever because most of my intimate friends would say, "You are washing too long; come up and help me in this case;" and they criticized me for making such a fuss, washing. It occurred to me then whether the general practitioner did use the antiseptic methods as frequently as he ought to, and I came to the conclusion that I would look up the reasons for our belief in the antiseptic methods in obstetrics. From the facts stated in my paper you will see that, even fifty years ago, we had clearly pointed out the means which we recognize to-day as the great in obstetrics.

AFTER THE BABY IS BORN.

F. R. SCHMUCKER, M.D., READING.

There are certain matters in the practice of obstetrics concerning which physicians of experience have an honest right to differ. Our standard authorities are not infallible. Well-established methods of treatment are accepted by all painstaking obstetricians as their rules of practice, but points concerning which authorities differ, or even contradict each other, allow to every physician the right to exercise his own ingenuity and common sense.

I offer no apology for taking up a subject apparently so simple and well understood. The suffering, bleeding patient, who has just passed through the untold agonies of the second stage of labor, is entitled to our tenderest sympathies and to the best professional care for herself and for her infant, just born, that our own ingenuity and our knowledge of the subject can suggest.

We find the cord still pulsating. While waiting for a few moments for this to cease, we make sure, with the left hand over the abdomen, that the uterus is contracting. The cord is then ligated two inches from the skin-surface of the child. To avoid unnecessary bleeding from the placental end a second ligature may be applied a short distance beyond the first, and sever between. Having at hand a fresh-laundered woolen wrap, the babe is enveloped in this and laid aside, in order to give our whole attention to the mother.

With plenty of warm, sterilized water and a soft linen cloth, a most careful and thorough cleansing of body and genitals should be made. While doing so, the parts are examined to find what injury, if any, has been done. After all blood-stains have been removed and the parts dried with a perfectly clean, soft towel, all of which need consume but a few moments, it is well to at once cover the lower abdomen and the vulvar orifice with a soft, large-sized, sterilized napkin, both from motives of delicacy and to protect the parts from septic infection, and to take up the lochia.

The application of a binder is not a necessity. The assertion that it prevents a large abdomen is merely theoretical. Unless contraindicated it should be applied, however, whenever the comfort of the patient demands it. Where the patient has a cough, the binder should be absolutely prohibited. In this case, if applied, the impulse of the cough is entirely downward upon the uterus, and, instead of doing good, it will do absolute harm in probably causing a downward displacement of the uterus. Upon the same mechanical principle, we frequently find male infants suffering from inguinal hernia caused by the snugly-fitting abdominal bandage which nurses and mothers think should be continued for two or three months, or even longer. My experience is that, if the case of hernia is seen early, the trouble is easily remedied by simply leaving off the bandage. The impulse of the child's crying upon the abdominal viscera is then *outward*, as nature intended it, and not *downward*, as with the tight bandage.

The mother having thus been made comfortable, we give attention to the infant.

With sterilized water and a soft linen cloth the mouth and eyes are first carefully cleansed, using no soap. In case the vernix caseosa covers any part of the face, it can readily be removed with an oiled woolen rag. After the body is cleansed and washed with soap and water we are ready to dress the cord. For this purpose *lintine* is an excellent material. The piece should be about 4 x 5 inches in size, a notch cut in the middle of the shorter width for the cord. The notch is slipped over the cord from above and the cord laid upward on the lintine, which is doubled over it from both sides, and then the upper portion is turned downward under the cord, thus putting three thicknesses of lintine between the cord and the child's skin. Before enveloping the cord it is well to dust upon it a mixture of boracic acid and iodoform. With this dressing the nurse needs give the matter no further attention except to see that the bandage keeps the stump well in place.

How soon after birth shall the infant be put to the breast? Never under five or six hours. The mother needs a prolonged rest and quiet before she is in a fit state to nurse her babe, and before her milk ceases to be an "excited" milk, injurious to her offspring.

Vaginal douching immediately after childbirth may be left to the good sense and judgment of the medical attendant. The less we interfere with natural, physiological processes, the better. Rigid asepsis by frequent external bathing of the genitalia must be insisted upon during the whole of the lying-in period. Perfect cleanliness, good pure air and freedom from unnecessary disturbances, contribute largely to the recovery of our patient.

Don't allow a garrulous nurse to disturb the patient.

Don't talk too much yourself.

Don't annoy patient by too frequent use of clinical thermometer.

Don't show anxiety in sick-room if patient's condition becomes pathological.

These "don'ts" might be multiplied indefinitely, if time and space permitted.

CIMICIFUGA RACEMOSA IN OBSTETRICS.

PEARL STARR, M.D., BELLEVUE.

CIMICIFUGA is a remedy known to the profession by several names—actæa racemosa, macrotine, black cohosh, etc.

This remedy first attracted the attention of the medical fraternity from its use among the Indians for rheumatism and diseases of women.

The general symptoms—nervous weakness during the afternoon; great sensitiveness to cold air, which seems to penetrate the system; continued restlessness in the afternoon; desire to move about, not knowing what to do or where to go; a general feeling of illness; weak, trembling, exhausted, sinking feeling; easily fatigued; after great exertion, desire to lie down and close the eyes; a bruised feeling, as if sore, affects the left side most; feels she will go crazy; sleeplessness, restlessness, trembling, and fear of death; when reflex, from uterine irritation, headaches, nausea and vomiting, backaches, tenderness, and pain through the pelvis and abdomen.

Frequently there is an abnormal condition of the pelvic organs which does not manifest itself until impregnation takes place; then we will find a train of symptoms that this drug will benefit.

"Cimicifuga (Actæa racemosa) acts upon the cerebro-spinal nervous system, and especially on the motor nerves. It seems to have a decided influence over the nerves distributed to muscles, producing a perfect picture of myalgia. . . . . That it is valuable by reason of its reflex nervous symptoms. . . . . It has neuralgia of any part of the body as a reflex symptom from uterine or ovarian disease. . . . . One of its most important symptoms, arising from this cause, is a sensation of heat on the top of the head just back of the centre,—a sensation as if the top would fly off; sharp, lancinating and neuralgiform pains in and over the eyes, supraorbital pains shooting up to the top of the head." (Dr. Farrington's M. M.)

In spinal irritation it is specially indicated when the upper and lower cervical vertebræ—especially the latter—are sensitive to pressure; particularly noticeable if, when the patient attempts to lean back when sitting, the pressure causes uneasiness or nausea, indicative of uterine irritation. Articles have appeared in the medical journals recommending the giving of cimicifuga during the last two or three months of gestation, to facilitate labor.

Four cases that have been under observation are as follows:

No. 1. In her eighth confinement; previous labors ordinary. Labor from beginning to completion lasted about twenty-four hours. She said there was no pain from first to last. She could feel the contractions come on and pass off, and dozed in the intervals. She made a good recovery. The child weighed about eight pounds. This patient took warm sitz baths the last three or four months of gestation at least once in twenty-four hours.

No. 2. Fifth confinement; previous ones had been very difficult, and anæsthetics and instruments used. With her first child she was badly torn, and not repaired. I first saw her when called to attend her with her fourth child. Her suffering was severe. Anæsthetics were used in the later stages—enough to stupefy; at no time was she unconscious. Delivery accomplished with instruments. The babe weighed ten pounds. In her fifth pregnancy she was carefully watched, and during the last two months was given cimicifuga, morning and night. Labor was regular; lasted twelve or thirteen hours; neither anæsthetics nor the instruments were needed, although it was a case of dry birth, and the babe weighed nine pounds.

No. 3. A young woman in her second pregnancy. Her first labor had been very difficult; it was thought delivery could not be accomplished without craniotomy; labor lasted thirty-four or thirty-five hours; both anæsthetics and instruments used; child weighed eleven pounds, and died five hours after birth; sutures were all united. In the second pregnancy cimicifuga was given during the last two months; labor lasted from 9 P.M. to 8 A.M.; anæsthetics were given to stupefy; at no time

was the patient unconscious; delivery by instruments was accomplished readily; babe weighed ten pounds.

No. 4. The same individual as No. 2. This was her sixth pregnancy. One year previous she had hæmorrhage from the kidneys, the urine the color of blood. The hæmorrhage resulted from over-exertion by bicycling. In the latter months of gestation an œdematous condition manifested itself which yielded to arsenicum alb. 6x. About the seventh month pains similar to labor pains troubled her very much, and were so severe that premature delivery was apprehended. She was relieved by cimicifuga and pregnancy advanced to full term, then went over ten days. Labor was declared by fainting; progress was steady from the first, and lasted about eight hours. This case was one of the easiest labors the writer ever attended. There was delay in the delivery of the shoulders. Child weighed eleven pounds—was still-born. The mother died in less than an hour and a half afterwards in the third convulsion. In several cases cimicifuga has relieved the pains and tenderness through the abdomen, in pregnant women, which we were satisfied would otherwise have miscarried.

The text-books recommend the use of cimicifuga when labor-pains seem to be associated with fainting spells, or crying out in agony, so severe are they. In a high degree of nervousness, both during and out of labor, in which the woman is in a very apprehensive mood, she has a fear or dread of something about to happen, and this haunts her from day to day. In a number of cases actæa was prompt in relieving the extreme nervousness during labor.

Dr. J. C. Sanders, in an article, "Cimicifuga in Puerperal Conditions," published in the *Homœopathic Obstetrical Journal*, May, 1896, recommends the use of this remedy for neurotic after-pains, or where hæmorrhagic in character. He says he has verified experience again and again. Where it has been given as a prophylactic to habitual hæmorrhagic labors there have been no after-pains of prominence. We know we have been able several times to relieve distressing after-pains with this remedy when other remedies have failed.

With puerperal mania the writer has had no experience, not

having been so unfortunate as to have had a case, but feels satisfied this remedy would be one of the first that would come to mind in such an emergency. The symptoms (loquacity is usually associated with puerperal mania) are wild imaginings of rats; sleeplessness; wild, crazed feeling about the head; incessant talking, with continual change of subject; the patient must move about; nervousness; she feels as if the top of the head would fly off; great apprehensiveness; pains through the eyeballs to the occiput.

A number of times, after delivery, where there was restlessness and vigilance, this remedy has soothed, and the patient would drop off to sleep, and after awaking would ask, "Doctor, what was that you gave me to make me sleep?" and I have answered, "Nothing. I just gave the remedy to relieve that nervous condition, and sleep necessarily followed."

Dr. A. C. Cowperthwaite, in the *N. A. Journal of Homœopathy*, September, 1895, compares cimicifuga and caulophyllum, which are perhaps the most difficult to differentiate:

"Cimicifuga is a remedy having a wide range of action . . . . deserving the title of polycrest. Caulophyllum has a limited range. . . . . Cimicifuga is a depressing irritant; it produces persistent tonic contractions or spasms, and that caulophyllum, likewise a depressing irritant, produces intermittent or clonic spasms, soon followed by complete atony. Tonicity is, therefore, characteristic of the one, while atony is equally the characteristic of the other.

"This action is especially exemplified in the uterine sphere, and it is here we find the chief and almost only point of differentiation.

"In cimicifuga the action seems to come through direct influence on the spinal nerves, which is not so evident in the action of caulophyllum. Therefore, cimicifuga covers a large range of reflex disturbances in the ovarian-uterine sphere, in which caulophyllum is practically useless. On the other hand, too, cimicifuga produces many reflex disturbances in various parts of the body, especially of women, due to ovarian-uterine irritation, which is not the case with caulophyllum.

"These reflex disturbances are of a neurotic character, such

as neuralgia, chorea, epileptiform convulsions, etc., in the treatment of which caulophyllum forms no part of our curriculum.

"Caulophyllum is of the greatest value in the treatment of passive hæmorrhage following abortion or confinement, due to atony of the uterus. Such a condition is rarely present, except from an atonic state. . . . .

"Both remedies are valuable parturifacients—cimicifuga for so-called false pains, when they do not force downwards, but upwards and across the abdomen. If caulophyllum is indicated, the pains are weak and do not force downward, but pass off with a kind of shivering. Cimicifuga also gives 'shivers' during the first stage of labor, but are not associated with the weak, atonic condition of caulophyllum.

"Caulophyllum is recommended also for the annoying pains which sometimes occur weeks before labor. It is also claimed that this drug will calm all irritation in time and prevent tedious and painful labors. Both are useful in threatened miscarriage—cimicifuga for flying pains, caulophyllum for clonic spasms and hæmorrhages. Either remedy may be called for when there is a rigid os, but cimicifuga is more often required. Both are useful for after-pains, but cimicifuga is oftenest indicated, the pains being severe, and the patient becoming so sensitive to them that she is almost, if not quite, hysterical. Caulophyllum is more often needed for after-pains following exhaustive and tedious labors. Both are useful in subinvolution; but, as it is more a condition of atony, caulophyllum is more often called for. Such is the case when a protracted lochia exists, due to the same cause."

Pulsatilla may be indicated when, during pregnancy, there is soreness of the uterus and abdominal walls, and during labor, when the pains are slow, weak, and ineffectual. Again, they may be spasmodic and irregular; and, exciting a fainting feeling, the patient feels smothered and calls for the windows to be opened. Also, it may be called for after labor, if the placenta is adherent. With pulsatilla the patient is of a mild, tearful disposition, easily discouraged; sometimes she may be full of anxiety and forebodings.

In the rigors and nervous chills in the first stage, cimicifuga resembles gelsemium; there is also the rigid os of gelsemium, and also a complete atony, in which it resembles caulophyllum. Several other remedies are analogous; but this paper has already exceeded its intended limits, and we leave to the student of Materia Medica the task and pleasure of further investigation.

REPORT OF THE BUREAU OF GYNÆCOLOGY.

The Surgical Treatment of the Irreducible Form of Uterine Anteflexion, by B. F. Betts, M.D.
Constipation, by Margaret M. Hassler-Schantz, M.D.
An Ovarian Tumor, by J. H. Sandel, M.D.
Uterine Prolapse, by Julia Gould Waylan, M.D.

THE SURGICAL TREATMENT OF THE IRREDUCIBLE FORM OF UTERINE ANTEFLEXION.

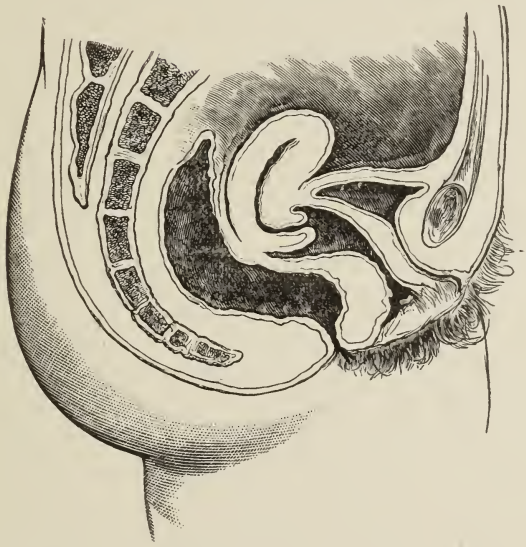
B. F. BETTS, M.D., PHILADELPHIA.

The uniformity with which one variety of uterine anteflexion recurs, despite our best directed efforts to effect a permanent replacement by other than surgical methods, has suggested the propriety of designating it "The Irreducible Form of Uterine Anteflexion." As this variety, if not surgically treated, uniformly tends to the development of serious pelvic symptoms, accompanied by dysmenorrhœa and such an impairment of the procreative function as to cause sterility, I have deemed it worthy of the consideration of this Society, with the hope that it may lead to an early recognition of the condition in the future, in order that suitable surgical measures may be instituted for the relief of such patients before permanent structural lesions develop. It is in the domain of preventive treatment that gynæcology needs most the services of the general practitioner, for it is to neglect upon the part of the patient or her physician that we must assign the necessity for the formidable mutilation so often effected, at the present time, to secure curative results. The condition under consideration is most frequently met with in young women in whom the uterus is prolapsed to the first degree, so that the cervical extremity

rests upon the floor of the pelvis, to be influenced by fecal accumulations within the rectum, which tend to deflect it towards the vaginal outlet until the bent posterior wall of the cervix becomes permanently hypertrophied and elongated. In the anterior portion of the cervical wall atrophy is effected from lack of blood supply at the point of flexion. The hypertrophy of the posterior wall and the atrophy at the point of flexion anteriorly are characteristic features of the irreducible form of uterine anteflexion. In some cases the anteflexion is due to an imperfect development of the entire reproductive system at the time of puberty. The fundus remains small in proportion to the cervix, as it is during childhood, and the anterior vaginal wall with the utero-vesical ligaments are so shortened as to tether the cervical portion anteriorly whilst the more perfect circumferential development of the bony pelvis is being effected. Intra-abdominal pressure, directed against the fundal portion of the uterus, from constricting bands about the waist, keeps the cervical portion under more or less constant irritation. Under such circumstances the posterior wall of the cervix and the posterior uterine ligaments (the utero-sacral supports) become permanently thickened by inflammatory deposits, so that the organ is then held firmly in its abnormal position and a perfect replacement of the prolapsed and anteflexed uterus becomes impossible. These conditions are now readily distinguished from the reducible form of anteflexion, which is favorably influenced by the use of the ordinary pessary without surgical treatment. The flexion in the irreducible variety is not always at the junction of the body with the cervical portion near the internal os, but it is most frequently at a lower point in the cervix, even midway between the external and internal os, or at the middle third of the cervix—differing in this respect from the reducible form, in which the flexion is at the neck of the organ at the internal os. At the point of flexion in the irreducible form we detect a sulcus or depression in the anterior wall of the cervix underneath the vaginal mucous membrane, when firm pressure is directed against it. This cleft in such cases cannot be obliterated in the effort to straighten the long axis of the uterus because of the thickened condition of the

posterior cervical wall. In aggravated cases the fundus may become retroverted whilst the cervix remains anteflexed, and conjoined with this the prolapsus may be even more marked than at first (Fig. 1).

Fig. 1.



Irreducible anteflexion of the cervix from prolapsus with hypertrophy of the posterior lip near the vaginal intersection and atrophy of the corresponding part of the anterior lip and inflammatory thickening of the utero-sacral ligament.

With the most severe form of displacement the tubes and ovaries become involved in the general disarrangement of the pelvic viscera. Under such circumstances there is imperfect uterine drainage. At the time of cervical dilatation and curettage of the uterus I have frequently been able to demonstrate the presence of a marked stricture at the point of flexion, and beyond this a depression in the posterior wall of the uterus and most dependent part of the uterine cavity. In this depression a pool of mucus and menstrual debris is found which only awaits septic infection to become the source of endometritis, with subsequent fallopian salpingitis and ovaritis. To painful menstruation we then have added menstrual irregularities, persistent backache, pelvic tenesmus and chronic invalidism. As constipation continues, hepatic torpor develops, with its conse-

quent malassimilation and subsequent anæmia. Constipation thus plays an important rôle, both in the development and subsequent history of the conditions under consideration.

The treatment of this form of anteflexion has been by—

1st. The use of pessaries.

2d. The uterine stem.

3d. Bilateral discission of the cervix.

4th. Posterior discission (Sims' operation).

5th. Gradual dilatation (tents; small divulsors).

6th. Forcible dilatation (Goodell's large divulsors).

All these methods have failed, excepting those of Sims and Goodell. In married women, Goodell's method has effected favorable results when it removed the barrier to impregnation; otherwise the dilatation has soon been followed by contraction. As salpingitis and ovaritis are frequent accompaniments, impregnation only occurs in rare instances; hence the method is limited in its usefulness. Even when impregnation does occur after dilatation, the cervix is liable to serious laceration at parturition, because of the thickened condition of the posterior wall against which the presenting part of the child impinges with such force as to sever it from its attachment to the weaker structure in the anterior portion of the cervix. Sims' posterior discission of the cervix is the most effectual treatment for the irreducible form, but it is open to the objections that it either leaves a weak point in the cervix, which readily develops into a serious laceration at parturition, or the incision becomes obliterated by nature's efforts at repair within a few months after the operation has been performed. The operation devised by Prof. Dudley, of Chicago, overcomes these objections, and when modified by a slight additional operation upon the anterior vaginal wall in front of the flexion, so as to strengthen the wall at this point, leaves nothing to be desired.

The patient is prepared for the operation with the usual antiseptic precautions; she is etherized and placed in the lithotomy position. The cervix is carefully dilated, by means of Prof. Pratt's cervical dilators, which I have modified by the addition of a groove or channel upon the opposite sides of each instrument, in order to facilitate the discharge of the pent-up

uterine secretions when the instrument is being pressed firmly into the cervix, so that its piston-like action may not force these secretions through the uterine cornua into the fallopian tubes. The uterus is next curetted and washed out with a bichloride solution, 1 to 4000, and after that with plain water. Kuchenmeister's scissors are used to cut directly through the posterior wall of the cervix up to the point of flexion, that is, through the point of internal stenosis and back to the junction of the vaginal wall with the cervix. A sound is next passed, to ascertain whether or not the cavity of the uterus forms a straight line with the cervical incision, so that good drainage may be secured. If there be still some stenosis, the incision is deepened from within upward by the use of the knife. The projecting knuckle anteriorly at the point of flexion in the canal of the cervix is also cut through until the uterine outlet is straight and patulous. The ears or flaps on each side of the incision are trimmed up and the mucous surfaces along the vaginal edges are denuded (Fig. 2).

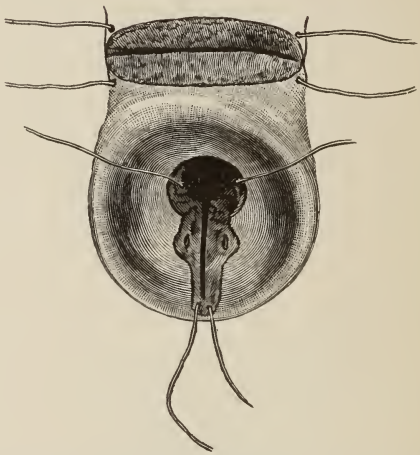
Fig. 2.

Os uteri dilated after curettement. The posterior lip incised; the dotted lines indicate area to be denuded. (Dudley.)

A curved cervical needle, threaded with a loop of silk to draw a silver wire suture in place, is passed through the cervical tissue from a point just within the external os, to emerge near the centre of the raw surface of the incision, then reintroduced and made to emerge upon the mucous surface at a point just above the upper extremity of the incision, or in the posterior fornix of the vagina. A similarly-placed suture is introduced

in the opposite side of the cervical incision. When the ends of these sutures are drawn upon the anteflexed cervix is pulled backward, so that the raw surfaces on each side are doubled upon themselves and brought into apposition. It will now be evident that a cleft has been formed, running from side to side, at the external os, which resembles the cleft between the anterior and posterior lips of the normal os uteri. Supplemental sutures are now introduced on each side of the first, but none of them are twisted into place until an important operation is

Fig. 3.

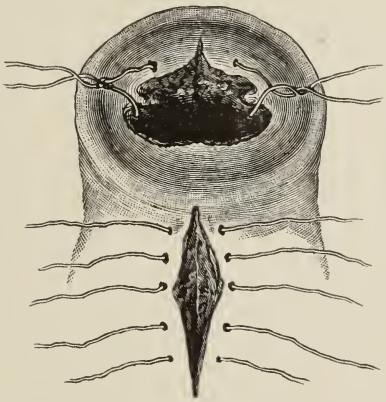


Wedge-shaped piece of tissue removed from anterior vaginal wall at point of cervical flexion. (Skene.) Sutures introduced.

performed upon the anterior vaginal wall at the point of depression caused by the flexion of the cervix. An incision is made from side to side upon the anterior vaginal surface, to the bottom of the depression, at the point of flexion; this incision is made without cutting into the bladder and not perpendicular to the surface, but runs from before backward and inward, at such an angle with the mucous surface as to constitute a flap, which can be turned down towards the posterior vaginal wall by means of a tenaculum hooked into its upper extremity. A similar flap is made by commencing an incision in front of the cervix and in a direction toward the bottom of the depression, as before, but upward and inward. When these two flaps are

drawn upon, a wedge-shaped piece of tissue is lifted out of an oblong opening extending in depth to the point of cervical flexion (Fig. 3). Sutures are now introduced *across* this oblong opening from one lateral extremity to the other. With these sutures the opposite ends of the opening are approximated, and the cleft is made to run antero-posteriorly instead of laterally, as before. In this way the anterior vaginal wall is lengthened and a splint-like mass of tissue is imposed in front of the cervical flexion, which tends to prevent a recurrence of the displacement. The wire sutures first placed in the cervix posteriorly are now twisted in place, cut off, and shotted (Fig. 4). A hard-rubber

Fig. 4.



Showing the parts as they appear when the sutures are adjusted.

uterine drain is passed into the uterine cavity, to remain for two weeks; the vagina is washed with bichloride solution, after which it is packed with sterilized gauze. The subsequent treatment is the same as that for any other plastic operation on the cervix. The accompanying prolapsus and parametric inflammation will usually require attention after the patient has recovered from the operation. The operation itself cures cervical stenosis, drains the uterine cavity, and may prevent the development of salpingitis. When the appendages are already seriously diseased, it relieves, to a great extent, the pelvic tenesmus and backache. It furthermore leaves the cervix apparently unmutilated, and quite capable of performing its functional action during gestation and at parturition.

DISCUSSION.

Dr. Theodore J. Gramm: I am delighted with the presentation of this paper, Mr. President. I am especially pleased that so eminent an operator should have selected so difficult a subject. This is recognized as one of the difficult subjects to treat in gynæcology. There is no operation that is, as yet, satisfactory for the treatment of anteflexion. The abdomen has been opened, operations have been done from within the abdomen, amputation of the cervix has been done, and several operations have been performed, but I am free to say that none of them are, as yet, satisfactory. On this paper I have one suggestion to make: It is the classification that the doctor makes, the characterization of these forms, that I do not think is very good—that is to say, naming them *irreducible.* Of course, it describes the condition; but, on the other hand, it misleads the general practitioner. The condition the doctor refers to is recognized as the pathological form of anteflexion. Now, then, if we have a pathological form, we recognize a form that is not pathological. If we have an irreducible form, we have one that is reducible. If you say there is an irreducible form, you imply that there is a reducible form; and if you have had any experience in gynæcology you know there is no reducible form. Therefore, this characterization of this condition misleads the general practitioner. He will find that many of the cases do not present symptoms due to anteflexion; he will find the anteflexion there and attempt to reduce it, insert a sound, and introduce another means for treating a disease which is no disease. It is recognized that two-thirds of the cases of anteflexion produce no symptoms whatever. That is the reason I make this criticism. No treatment is required in the majority of the cases of anteflexion that are seen. The suffering is attributed to a changed form of the uterus; but it has been observed that the uterus is in anteflexion, and I hope that it is ever in the position of anteflexion and not at all in the ideal position. It is wrong to attempt to replace this anteflexion, because it is a normal condition. When you cannot replace it, and you have symptoms from it, you have there the pathological form, and that is due to one of two causes. You will find that the

pathological form is due either to maldevelopment or to pathological conditions in the sides of the uterus. In many cases the retractors of the uterus—the sacro-uterine ligaments—are at fault, or there is lack of development of the anterior wall. Unfortunately, this operation I still think does not leave the cervix in a condition unlikely to be injured at childbirth, for the reason that we turn around tissue on itself; we have a ring that has been torn, not dilated.

Dr. B. F. Betts: In my paper I have differentiated very carefully the irreducible form from the normal, anteflexed cervix. The irreducible form is characterized by a hypertrophy of the posterior wall of the cervix and atrophy of the anterior wall; that is the irreducible form. It is necessary to call attention to this particular form, because it invariably leads to pelvic symptoms. The doctor is right in the statement that the normal anteflexed uterus is a healthy uterus and requires no surgical treatment, but that is a different condition entirely from what I delineate in my paper. The congenital malformation, or the acquired condition of the irreducible form, requires surgical treatment, and that is the one reason I have for presenting the paper. In order to call attention to surgical treatment, I took this case in order to speak of some serious surgical operations afterwards.

Now, as to operation on the cervix. I wish to say I have seen this operation result, as we might expect, and as the gentlemen will all agree, in a reduction of the hypertrophy of the posterior wall. From the incising of the posterior wall we set up an atrophying process which results in a diminution in the amount of hypertrophy; so we get a cervix by the operation which is perfectly normal, the posterior lip of the cervix corresponding in every respect with the anterior lip of the cervix, because that has a chance to improve its condition while the atrophying process is going on in the posterior.

CONSTIPATION.

M. MARGARET HASSLER-SCHANTZ, M.D., ALLENTOWN.

I SHALL offer no apology for asking your attention to so old a subject as I present to you, and have selected it because homœopathic physicians differ so widely as to its treatment and the remedies.

Presuming that all will comprehend the term constipation as given by Webster, we will leave that to consider the cause, course and treatment of this abnormal condition that has given so much discomfiture to the human race for so many generations. In a normal condition there should be a complete evacuation of bowels once in every twenty-four hours; it should be free from straining, and the quantity be in proportion to the amount of food consumed and assimilated. It is not uncommon to find people who defecate twice daily, others every other day, and enjoy good health.

The symptoms arising are so often misleading as to throw the physician off his guard. They simulate those found in many other diseases, and in many cases a diagnosis is made of some other complaint, and the patient treated for such instead of constipation. Can we diagnose uterine disease simply because a woman has headache, backache, bearing down, languor, etc., without making a vaginal examination? Yet many women have been medically treated for such instead of constipation, because of a mistaken diagnosis. The effects of constipation are shown by heaviness of head, dulness of the intellect, headache, offensive breath, bad taste, loss of appetite, nausea, vomiting and vertigo, palpitation of the heart, loathing of food, sallow or earthy complexion, cold extremities, nervous depression and progressive emaciation. There is occasionally a case where the individual becomes corpulent, the food increasing adipose tissue, while the muscular and nervous systems are not properly nourished. Such persons have but little strength, though they look fairly well.

The causes of constipation are many and various, and hence it becomes obvious that one of the first things to be done in treating constipation is, if possible, to discover the cause and remove it before we can hope to do much in the way of a cure. For convenience the causes are divided as follows:

First.—Deficient excretion and secretion of the liver and other glandular organs connected with the digestive apparatus.

Second.—Neglecting to attend to the calls of nature at a regular time.

Third.—Irregular peristaltic action of the muscular coat of the intestine from deficient or irregular nerve force.

Fourth.—Paralysis of the bowel associated with and depending upon an apoplexy.

Fifth.—Obstruction somewhere in the intestinal tract by growths or the result of inflammation. Peritonitis, causing adhesions. The more frequent causes under this head are polypi, piles, inflamed pockets, papillæ, fissures, fistulæ, tumors, strictures, strangulations, torsions, impactions of foreign substances.

Sixth.—Pressure from displacement of the womb.

Seventh.—Excessive use of coffee and black pepper, which, producing congestion of the hæmorrhoidal vessels, leads to the development of piles and subsequent constipation. Likewise the use of cheese and fruits containing small indigestible seeds.

Eighth.—Sexual excesses in both sexes are followed by a debilitated, nerveless condition of the system, that affects mind and body.

Ninth.—Habitual use of cathartics.

How to get rid of constipation must involve the question of cause, and in this treatment, as with all diseased organs, remove the cause, if possible, then look well to the state of the pathological condition. Local measures are deemed necessary in the majority of cases, but in addition proper constitutional treatment by means of the "indicated remedy" must never be omitted, for it will cure part of our cases. Never fail to treat the patient while treating the disease. But some one says the properly selected drug will cure all cases that can be

cured by any other measures. All I have to say in reply is, well and good; if you can do so, all right, but I cannot. I must use additional adjuvants in treatment. It is important to attend to the hygiene of the patient. Regularity is one of the principal measures. Best time for evacuation is in the morning. Exercise is a necessary factor; hence patients should be encouraged to walk, indulge in light gymnastics, sea-bathing, swimming, out-door sports, bicycling and horseback riding, all of which are conducive to good results. Clothing around the waist should be loose, to allow perfect freedom of intestinal action. Food must be plain, of sufficient variety and easily digested. The excessive use of seedy fruits, spices, pork, cheese, black pepper and coffee should be avoided. Hot water, with a tablespoonful of bran, taken before meals and before retiring, is beneficial. The various mineral waters, particularly the Hunyadi and Lithia, have a relaxing effect on the bowels. If atony of the bowel, the nerve tone can be restored by electricity being applied directly to the bowels sufficiently strong to occasion slight contraction of the abdominal muscles. Hot applications to the abdomen, the use of alternate hot and cold applications to the lower part of the spine, cool sitz baths, daily or every other day, with the vigorous kneading and percussion of the abdomen several times a day for five or ten minutes, or have patient use a cannon-ball covered with leather, following the direction of large intestines, are measures of value in the treatment of this condition.

Nature shrinks from being hurt, and so any irritation at the lower orifice of the bowel—as fissure, polypi, fistula, piles, inflamed pockets and papillæ—tends to produce a reverse action of the bowels. These sources of irritation must be removed to effect a cure, as they are the most frequent causes of constipation. If a retroverted uterus is impinging on the rectum, tip it into place; keep it in place by tampons. If no adhesions, use electricity to tone up ligaments, with either sepia or ferrum iod. internally. One of my chief remedies for constipation is dilatation of rectum by the use of dilators, which may be employed not only by physicians, but may be entrusted to the

keeping of intelligent patients. It is well to begin with the smaller sizes, and pass on to the use of the larger ones as the parts become accustomed to their use. They can be used daily, weekly or bi-weekly, and can immediately be withdrawn after insertion or permitted to remain half an hour, all depending upon the extent of reaction which it is desirable to secure. The plugs act as a substitute for natural dilatation in such cases, and, unaided by other measures, will often restore the habit of the bowel to a natural state, when their use can be abandoned. If a local soreness, or a feeling of pressure at the base of the brain, is caused by daily use, suspend action for a time until such irritation has passed away, after which they can again be used. After dilatation wipe the mucous membrane off with cotton saturated with olive-oil. This feeds the mucous membrane. In cases where the fæces become hardened an enema of glycerine and water or oatmeal-water or sweet-oil should be used, being careful that only a small quantity be used, as a larger quantity prevents the relief sought for by over-distending the rectum, producing a temporary paralysis of the muscular coat. Of substances used for suppositories may be mentioned wheat-gluten, glycerine and cocoa-butter. Of the remedies there are a large number. Bernhardt, in his little work on "Constipation," mentions ninety-two, and Lilienthal even more. As to the use of drugs, their proper administration has been of inestimable value in the treatment of this affection. They have their sphere, and strengthen the treatment; but probably at the present time too much stress is laid on their use, and I believe they may have been much abused. Undoubtedly a large number of cases have, by the continual and indiscriminate use of medicines, been greatly aggravated. I will mention only a few commonly used which have given excellent results.

Æsc. hipp. is an excellent drug where nux vom. has been indicated, but fails. I use nux vom. at the beginning of the treatment, especially after the patient has been subjected to "dosing" with large quantities of opium and other allopathic drugs. I find it relieves the patient for a time, but if continued a few weeks later the trouble returns, and nux vom. will not

relieve the condition; then æsc. hipp. frequently clears up the case. It corresponds to the dryness of the mucous membrane and sluggishness of rectum. The stools are dark, hard balls.

Nitric acid is valuable for fissures, especially when hacking cough is present, this being the result of nervous conditions.

Ignatia and sulphur where there is prolapsus of rectum, with large masses of fæces.

Alumina when atony is present and there is no inclination at all for a movement.

In lycopodium the accumulation is never fully expelled; a few pieces pass and with great effort, and flatulence results on account of the accumulated mass.

The others are anacardium, antimonium crud., bryonia, chelidonium, graphites, kali carb., opium, phosphorus, plumbum, sepia and silicea.

In conclusion, if I have succeeded in calling the attention of the profession more closely to constipation—since it is, doubtless, the source of many obscure diseases—my object is accomplished, for it is certainly worthy of close scrutiny.

DISCUSSION.

Dr. B. F. Betts: The treatment of constipation is an important subject for the gynæcologist. There has been, in my estimation, much gained by the adoption of a systematic routine in the method of examining cases suffering from this condition. By first directing attention to the physical condition, as well as the fundamental action of the stomach, we can then apply the same tests to the condition of the liver, and in some cases an enlarged and attenuated ascending colon may be felt through the abdominal parietes, in which a large fæcal accumulation is lodged. A pendulous condition of the abdominal parietes, after frequent childbirth, may require the use of an abdominal support, electricity and massage. To other important indications for treatment mentioned in the paper I should like to add the presence of rectocele, with or without uterine prolapsus, and with or without perineal laceration. A thin, attenuated rectovaginal septum which protrudes into the vaginal lumen or vulvar orifice from fæcal accumulations in the rectum re-

quires, an operation to strengthen the rectal wall, even when it is not associated with a laceration of the perinæum.

Dr. T. M. Johnson: I want to say a word about rectal dilators. I suppose a good many use them, and I have found them very useful. I think that they would relieve the conditions still further than suggested, owing to pressure, if they were retained for half an hour; they overcome local congestion and the attendant class of symptoms, and relieve hæmorrhoids, etc. I have one suggestion to make which is a little irrelevant, and that is, I believe the use of these dilators will relieve tenesmus in dysentery.

AN OVARIAN TUMOR.

J. H. SANDEL, M.D., PLYMOUTH.

The case which I am about to present, while perhaps containing nothing new, or even startling, proved to be of more than ordinary interest to those who came in contact with it. On June 9, 1897, I was called to see Helen S., aged 9 years. The history then given me was that she had not been as well as usual for the past two months; was more or less languid; had a feeling of heaviness in the lower abdominal region, with pains, at times, especially on the right side, usually of a colicky nature. For the past week or ten days she had complained of feeling ill generally; had been chilly, aching, feverish, thirsty, no appetite, with more or less pain through the abdomen, and diarrhœa. She had not been confined to her bed, but should have been. On examination I found the temperature 103°, pulse 120, tongue coated, abdomen somewhat tympanitic, with some tenderness, especially in the right iliac region. The general aspect of the case at this time strongly suggested typhoid fever, and I gave that as a probable diagnosis. The patient was put to bed, given a liquid diet, and the indicated remedy. For the next two or three days her condition remained much the same, except that the abdominal tenderness and tympanitis increased and affected all parts of the abdomen alike.

It was now clear that our case was one of peritonitis. During the first week that the patient was under observation her general condition was about the same, the evening temperature ranging from 102.5° to 103.5°, with decided morning remissions. The treatment above referred to was continued, with hot, dry applications locally. With the advent of the second week some improvement set in; by the end of the second week convalescence was well established, and by the end of the third week she was able to be up and about as usual. About this time (or the beginning of July), on examining the abdomen, I was able to make out a more or less distinct tumor, occupying the lower central portion of the abdomen, behind the symphysis pubis. It was then about the size of a large orange. Its location, shape, and the sensation it imparted to the examining hand, was decidedly that of a gravid uterus, between the third and fourth month. Indeed, had our patient attained the age of puberty pregnancy would have strongly suggested itself. At the time I was not positive regarding the character of this enlargement. I could not determine whether this was a result of the inflammatory process through which she had passed or some pathological growth. I awaited further developments with no little interest.

During the first three weeks of July she was in a seemingly good condition, ate and slept well, and went about as usual, yet complained at times of a sensation of heaviness in the abdomen when moving about. During most of this period she was away from home, among friends, and did not receive my attention.

About the 20th of July she was rather more active than usual, which was immediately followed by a return of the abdominal pain, fever, and anorexia.

The patient was now in a worse general condition than during her first attack. The abdominal enlargement had increased decidedly since the last examination; the growth seemed more irregular in shape and general outline. There was also some ascites present. Within the next few days I invited several of my fellow-physicians to see this now interesting case, and all inclined to the opinion that the case was one

of tubercular peritonitis. During the next two weeks she failed rather rapidly; the abdomen continued to increase in size; there was no appetite, little sleep, decided loss of flesh, a little fever most of the time, and the process of nutrition was much interfered with. She was also tormented with neuralgia down the right thigh and leg, especially along the sciatic nerve, of a decided burning character, due, doubtless, to pressure upon the sacral plexus.

It was apparent that unless something could be done to relieve the abdominal condition the end of life was only a few weeks hence, at the farthest. After due consultation it was decided that operative procedure held out the only hope of recovery. Accordingly, on August 4th she was removed to the city hospital at Wilkesbarre, and on August 5th, after due preparation, Dr. W. S. Steward, in the presence of quite a number of physicians (including those who had come in contact with the case), proceeded to make an exploratory incision along the linea alba above the symphyses pubis; he was prepared, however, to proceed with any operation that might be found necessary. An incision large enough to admit a finger was first made; this was next enlarged sufficiently to admit the hand. The hand was introduced, the contents of the abdomen explored, and an ovarian tumor, springing from the right broad ligament, was easily made out. The incision was now enlarged to near the ensiform cartilage, the tumor enucleated, the pedicle tied off, the toilet of the peritonæum made as quickly as possible, and the abdominal wound closed with interrupted silk-worm-gut sutures, without drainage.

The tumor, in size, filled an ordinary porcelain wash-basin, weighed 15 pounds, was a cystic sarcoma, and involved within itself the right ovary. It was non-adherent, and attached by a slender pedicle, about six inches long. Ether was the anæsthetic used. The operation occupied about three-fourths of an hour; it was borne rather indifferently; shock threatened to close the scene on the operating table. Stimulants were resorted to, under which the patient's condition improved, and the work was completed. She rallied nicely from the operation and made an uninterrupted recovery, the wound healing

by first intention. At no time did the temperature rise above 99°, and no untoward symptoms presented themselves. She was kept in the recumbent position for two weeks, was up and about the wards for another week, and then permitted to return home.

She now appears as well as ever, says she cannot run or go up and down stairs as readily as before, and fears that she will fall backwards—due, doubtless, to weakness in the recti muscles. An abdominal supporter has been applied, which it is intended that she shall wear for a year. The medical treatment of this case was directed chiefly to meeting the indications as they arose. Thus, briefly, have I recited a case which it is hoped may be of interest to some of you, as it was to me.

UTERINE PROLAPSE.

JULIA GOULD WAYLAN, M.D., PHILADELPHIA.

There seems to be a desire upon the part of most of us to seek for something new, something unique, those cases attracting our closest attention being found among the anomalies; and yet the every-day work in gynæcology brings before us the same old story, *i.e.*, the subject of this paper, "Uterine Prolapse," and with it the equally puzzling query, What shall we do with it?

The sinking or falling of the uterus into the pelvic cavity, or even outside of the vulva, usually characterized as prolapsus of the uterus, may be of any degree, from a slight displacement to a complete procidentia, and it is to this most marked degree of prolapse that I desire to call special attention.

Oft-repeated parturition is undoubtedly the most frequent and apparent cause of this condition. Subinvolution of the uterus after parturition, a weakened or imperfect pelvic floor, hard work, long-continued standing, the improper adjustment of the clothing, intra-abdominal pressure, or anything having a tendency to weaken the uterine supports, will predispose to a prolapse of the uterus.

Complete and partial prolapse come on gradually, as a rule,

though a fall from a height or a sudden effort of lifting may bring it on acutely by rupturing one or more of the ligaments.

The married and women advanced in years are usually the subjects presenting the most marked cases of procidentia.

Endometritis with metritis and hypertrophy exists in nearly all instances. The epithelial layer of the vagina often resembles true skin, becoming, as it does, very much thickened.

The symptoms are the continued and persistent backache, dragging sensation, patient must sit down or cross the legs, or hold the parts up to secure relief from the intense bearing down. Patient feels as though everything would fall from her; and, of course, in complete procidentia the language is far from figurative—the uterus, often sore and bleeding, issues from the body. In all degrees of prolapsus we often find micturition disturbed and painful and more or less rectal irritation, while in procidentia it becomes necessary in some cases for the patient to replace the organ that she may relieve her bladder and rectum.

It often seems as though all the lines of the patient's face were drawn down, shoulders stooped and rounded, all dragging down with that small but dreadfully troublesome organ. Leucorrhœa and headache nearly always accompany the above-named symptoms.

The diagnosis can be readily and easily made, and all I have said is but a recapitulation of what the gynæcologist hears from the majority of his or her patients, in a greater or lesser degree, each time the patient presents herself.

We can all diagnose prolapsus of the uterus, realize the cause, know something of the pathology and the symptoms, but how shall we treat this malady that we may have good and lasting results?

Certainly the simpler forms of prolapsus may be remedied by reposition, rest, remedies, tamponage, electricity or repair of the perinæum, as the case may suggest. The pessary used to be, and is even now used by many physicians, though I am rejoiced to find it is being discarded by many of the most eminent authorities upon the subject.

One writer gives us the following contra-indications to the use of the pessary:

When producing the least pain;

When there is any disease of the adnexa;

In cases of septic endometritis;

In cases of urethritis or vaginitis;

When the perinæum is lacerated;

In cystitis;

Where there are adhesions, or when the uterus is hypertrophied;

Whenever the uterus bends back over the instrument;

and sums up by saying, "*not often can pesssaries be applied with advantage.*"

There are many varieties of pessaries, but the inflated soft-rubber pessary in partial prolapsus, and the cup or makintosh pessary for complete procidentia, seem to have the precedence. While the cup pessary seems to be the only relief offered women of advanced years, where operation is denied or unadvisable, even this means of support is very apt to produce pressure ulceration. Braun's colpeurynter is highly recommended. Personally, I have had no experience with this supporter.

It is well said that the operative procedures devised and tried are about as numerous as the pessaries. There is scarcely an operation suggested that is not open to criticism and followed by a large percentage of failures.

Le Fort has devised an operation for keeping the uterus within the vagina by removing vertical strips of mucous membrane from opposite vaginal walls and stitching the virified surfaces together.

Anterior and posterior colporrhaphy and perineorraphy are often helpful in cases of partial prolapse.

In old women, where operation is deemed advisable, extirpation of the organ seems at times preferable to plastic operations, there being less risk because less time is consumed in making the operation.

Hysteropexy has its strong opponents, the chief objections being: The possible rate of mortality; production of a break in the ventral walls with the possibility of hernia; the forma-

tion of a false band around which the intestines may become caught; fixation of the uterus in a false position; induced immobility of the organ; the possibility of failure from the operation and the effect upon a future pregnancy. Literature is accumulating as to the ultimate outcome of hysteropexy. The following cases are taken from different journals at home and abroad:

Makenrodt was compelled to remove the uterus from a woman who had undergone hysteropexy for prolapsus about a year previously. Dragging and tearing pains were felt constantly, being referred to the site of adhesion of the fundus to the parietes, and the patient became more of an invalid than before the operation; hence the necessity for the excision of the organ. Baldy, also, was compelled to perform hysterectomy on a patient upon whom hysteropexy had been performed one year previously.

Goubaroff was compelled to deliver by Cæsarean section a patient on whom Küstner had performed hysteropexy four years previously. The abdominal cicatrix was found closely adherent to the anterior surface of the uterus, which bore a depression on the fundus. The upper part of the vagina was contracted and the os completely closed. The left shoulder presented. As a rule, however, it is claimed that hysteropexy adhesions break down during pregnancy. In hysteropexy for prolapsus in connection with retro-version, the abdominal walls with adherent fundus sink down and allow prolapsus to return. One author speaks of this as an illogical and mechanically incorrect operation. Only when the uterus and appendages are adherent, he goes on to say, can the operation for abdominal section possibly be justifiable. This, of course, is not pertinent when the operation is secondary to another, as removal of both adnexa, or when done for retro-position with adhesions.

Baldy describes a new operation for uterine prolapse which appears to be very reasonable upon paper, and he claims for it success upon all cases operated.

The procedure is in all essentials an abdominal hysterectomy by amputation at or below the internal os. The points to be observed are: to include both the ovarian arteries and the round

ligaments in the first ligature on each side of the uterus; to place this ligature as near the pelvic wall as possible, so as to leave but a small amount of broad ligament behind with the stump; to place but one other ligature on each side of the uterus, this ligament to include the uterine artery with as little other tissue as possible; this leaves both broad ligaments open to amputate the uterus as low on the cervix as possible.

The suture should be composed of heavy ligature silk, and in the course of its application it includes both the ovarian and uterine stumps, deeply placed well back of the ligatures. It will further be noted that the sutures include the sides of the cervical stump. It can readily be seen that the effect of tying these sutures is to lift up the stump of the cervix together with the vagina, and to bring it in close approximation with the ovarian stumps, doubling the opened broad ligament together.

Adhesions take place throughout the full extent of the doubled broad ligament, and most surprisingly firm support is given from above to the vagina.

The results claimed to be accomplished by this operation are as follows:

The weight of the heavy uterus is removed; the overstretched vagina is lifted high up and held firmly in place; the supports utilized are the natural supports of the uterus, the upper portion of the vagina and the broad ligaments; the cervix remains a pelvic organ, as is natural to it. The immediate and remote result, as regards fixation of the upper part of the vagina, is perfect. The plastic operations on the vagina Baldy judges to be absolutely essential as an adjunct to this as well as to any other similar procedure.

Vaginal hysterectomy is gaining in favor in cases of marked prolapsus and procidentia.

It seems difficult in these severe cases to decide whether an operation is justifiable, and if justifiable what the possible result, and whether this possible result will leave the patient more uncomfortable than the original difficulty. It is upon this point that I hope to hear the opinion of others interested in the practice of gynæcology.

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DISCUSSION.

Dr. I. G. Smedley: *Mr. Chairman*—I consider the treatment of procidentia, with hypertrophy of the vaginal walls, rectocele and cystocele, to be one of the most difficult diseases which we have to treat. First, according to the paper, it appears to me that there is very little to be done but leave the patient alone; we are not to remove the uterus, fix it, or apply pessaries. I do not know what we are to do. In old women I have found that the best relief is from supporters, where the uterus is freely movable. Where the vaginal walls are hypertrophied, the best pessary is a watch-spring rim, covered with soft rubber. These pessaries I have not been able to get in this country, but I procure them from London. The majority of the instrument-makers here make a soft rubber ring around a coiled wire. By means of these, even when the perinæum is torn, we can get, with the watch-spring rim, a sufficient support, if the vaginal walls are not too much hypertrophied, which is in the majority of cases the fact.

The next step is the operation for repairing a perinæum or a cystocele, and is, in the hands of the majority of men, including myself, often very unsatisfactory, because of the hypertrophied uterus above it and the hypertrophied vaginal walls, and because of an increased abdominal pressure. There is usually a relaxation of the abdominal walls and lack of support, which seems to be the cause of lack of support to the uterus.

Amputation of the cervix—even high amputation—has been unsatisfactory, on account of pressure of the vaginal walls. Then, after we have made good union—good, solid support—the pressure from above will increase, and in six months or a year or two will stretch the parts, and they will be as bad as ever. Vaginal hysterectomy has its drawbacks, for the reason that we are apt to have prolapse of the vaginal walls, which is the same condition we had to treat in the first place.

My operation, and one with which I have had very satisfactory results, is amputation of the cervix and abdominal fixation. It can be done very quickly, and we have not there the danger of vaginal hernia; the uterus is kept in place, and by the prevention of the pressure from above the vaginal walls will atrophy, involution will take place, and we have very good results. Sometimes, subsequently, the repairing of the perinæum will effect a cure.

Fixation of the uterus is an important factor. The point formerly was to fix the posterior wall of the uterus to the peritonæum, but subsequent experience shows that if pregnancy supervenes the uterus, if fixed from behind, cannot develop properly. It is better to fix the uterus in front in the median line, and following labors will be normal.

Dr. T. J. Gramm: It is indeed probable that the doctor has suggested to us what we shall do and when we shall operate. It is one of the difficult things we have to encounter in gynæcological practice. But I want to point out the fact that there are still some physicians who adhere to the use of pessaries. I do not think that they are to have the general condemnation which we might possibly be led to believe. I think that they have a use, but in order that they shall be effectual in relieving prolapse, it is necessary that they shall be adapted to the patient with some little consideration for size, shape, requirements of the vaginal canal and the vagina, condition of the perinæum, etc. I very fully agree with what the doctor has said with regard to contraindications for pessaries. There is, however, an indication for their use. We know that women bear operations well, but I think that the general tendency of gynæcological practice is not to tax women with so many operations as a few years ago it seemed to be. I think if we give our cases of procidentia (my opinions are somewhat changed since I reported a few years ago) an opportunity of involution by replacing the uterus and keeping it in place, in other words, allow retrogressive metamorphosis to take place, the uterus will not be so heavy, and, consequently, the uterine ligaments will be sufficiently strong to support its weight; we will then have a diminished size of uterus, and these ligaments can be encouraged to

contract or re-arrange these fibres, and it is likely to be kept in place. It is far better to use pessaries than to submit a woman to abdominal section or vaginal hysterectomy, but it will take time and attention, and the patient will have to see you often.

I would like, however, to call attention to the gross mistake of making use of any pessary that dilates the vagina, for the reason that by doing so you increase the difficulty which you already have; you take away what little support you have, the ligaments will have all the functions of the various supporting structures to perform, and the uterus will fall down. I would never use an inflated rubber ring, or a ring which distends the vaginal canal, and by distending provokes a prolapse. I think we proceed on altogether too inaccurate principles when we act according to these methods. The better way is to apply the pessary to the patient as she requires it. The size of the pessary is to be determined, and the shape. What shall be the shape? Many young men who begin practice in gynæcology forget that the uterus must be replaced before a support goes underneath it. A pessary will never replace a uterus. The doctor must replace it and keep it in place by the pessary. Then, again, I use the simplest pessary. And I would never teach a patient to insert a great big piece of cotton or wool. That is almost homicidal; it is criminal practice. The patient knows nothing of antisepsis.

The fault is in the ligaments, and the problem that confronts us is, How can we get these ligaments to act? I am presuming that the pelvic floor is intact, so that a pessary can be used. I do not think we should at once attempt an abdominal section or hysterectomy. I like to do both of these operations; still I recognize the fact that we should not operate if we can do without. If we can frequently see our patient, and replace the uterus, we will have an effect which, really, a few years ago I was ready to deny, for I had never seen it, nor had my attention been called to the remarkable results of the use of this treatment.

Dr. W. W. Van Baun: When we get a case of gynæcology we go after Professor James or Smedley or Gramm, but I am not greatly interested in this department of medicine. How-

ever, I had a little practical experience which might contradict some things the last speaker has told us. He said he would never use anything to distend the vagina, referring to a ring pessary or inflated pessary. A few months ago I had a case of complete prolapse, where the uterus was hanging out of the vagina, with marked sarcoma of the lip. She had been in the hands of other physicians for a year, and this prolapse had been allowed to go on all that time. I went around and saw my good friend Smedley, and he said, "Why do you not introduce a watch-spring pessary?" I offered to do so, but did not know where to get it. Here comes the practical point.

I used the watch-spring pessary, and introduced it after reducing the prolapse, and that kept the uterus in place. She was able to go around the house, and get up and down stairs. That may be contrary to proper theorizing, but in that case, at least, it goes for what it is worth—a substantial benefit to her resulted.

Dr. Julia Gould Waylan: I do not wish to be understood as saying there are no conditions in which the pessary should be used; but the general use of the pessary, I think, should be looked into very carefully. I find the pessary is used in a number of instances where I can see no possible use for it; I believe it there does harm. I think there are some conditions in which it is absolutely necessary.

CORRECTIONS TO THE LIST OF MEMBERS.

OMITTED.

1885—Christine, G. Maxwell, M.D., 2043 N. 12th St., Philadelphia.
1895—Hall, W. D., M.D., Altoona.

REMOVED.

1883—Edward M. Gramm, M.D., 709–710 Professional Building, 1833 Chestnut Street, Philadelphia.
1877—Griffith, W. M., M.D., 1827 N. 17th Street, Philadelphia.
1873—Herron, C. D., M.D., 3505 Butler Street, Pittsburg.

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1867—Gumpert, B. B., M.D., 840 Franklin Street, Philadelphia.
1881—Wareham, Edward A., M.D., Glen Rock.

DROPPED FOR NON-PAYMENT OF DUES.

1895—Brown, Lincoln S., M.D., 636 Penn Avenue, Pittsburg.
1897—Cowperthwait, E. C., M.D., 17th and Ontario Streets, Philadelphia.
1885—Giles, J. William, M.D., Nyack, N. Y.
1888—Sharpless, E. S., M.D., 1329 N. 12th Street, Philadelphia.
1896—Steudel, Robert, M.D., Phœnixville.

DIED.

1889—Lazear, L. L., M.D., 515 Penn Avenue, Pittsburg.
1887—Rodes, Joseph, M.D., San Diego, Cal.

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